POCKET CATALOG

PITTSBURGH REFLECTOR CO.
PITTSBURGH, PA.

"Pittsburgh"
Permaflector

PERMAFLECTOR SALES OFFICES:

DALLAS, TEXAS
GOTTSCHALL & WESTCOTT, Representative
2020 N. Lamar Street
Telephone, 7-6836

TEXAS
LOUISIANA
OKLAHOMA

Pocket Catalog

EDISON BUILDING
PHILADELPHIA
Permaflector Flood-Lighting in Changing Colors

Permaflectors

The silver-plated glass reflectors with the PERMANENT reflecting surface

MADE ONLY BY

Pittsburgh Reflector Co.

304 ROSS STREET - PITTSBURGH, PA.

INDEX

Pittsburgh

How To Get Good Lighting

GOOD lighting, whatever the job, whether store, window, gasoline filling station, church interior, or whatever it may be, requires just five things, namely:

Proper size and type lamps
Rightly located and spaced
Equipped with good reflectors
Of the right design
Correctly installed

On many jobs these requirements create problems which are sometimes difficult to readily solve.

Our Engineering Department Can Help You

For twenty years, we have specialized in the lighting of show windows and in other special fields.

We have accumulated a fund of information that is valuable to anyone having problems of this nature and who has not had this varied experience.

This information is at your service, without obligation, on all problems relating to the lighting of show windows, color lighting, spot lighting, foot lighting, cove lighting for theatres, churches, libraries, courtrooms and other public buildings as well as homes, direct and indirect lighting, industrial lighting, lighting through skylights, outdoor floodlighting, etc.

For Show Windows

Send us a rough pencil sketch of the floor plan of the windows to be lighted, marking on the sketch (a) length of the glass; (b) distance from glass to background; (c) from floor to ceiling; (d) from floor to transom bar; (e) height of background; (f) state nature of the display.

For Lighting Transparent Sign and Display

Permaflector No. 102 (page 27) is designed specifically for the lighting both of a transparent sign or valance and of the window display. This remarkable reflector satisfactorily lights many windows, such as in drug stores, cigar stores, in which heretofore the lighting of the display has been sacrificed in order to light the transparent sign or valance.

For Cove Lighting

Send room sizes and cross-section details of the rooms to be lighted; or state size of room, height of ceiling, distance from floor to cove and from cove to ceiling.

Daylight Reflections

The most difficult problem in show-window lighting is perhaps that of daylight reflections. There are many windows where such reflections may be noted, partic-

ularly if they are looked for; and in exceptional cases, such reflections may be so great that displays cannot be seen under ordinary window lighting in daytime.

Although it is impracticable to overcome the worst of such reflections entirely by means of artificial lighting, the reflections can be lessened to a great extent by means of increased intensities; by color lighting, by use of the right backgrounds; and by awnings.

Ofttimes a change in the color of the background in the show window will accomplish a great deal. The darker the background the more the plate glass becomes like a mirror; the lighter the background the less apparent are the reflections.

Use of an awning or marquise is frequently of great help, and color lighting quite often proves effective in lessening objectionable reflections, particularly the use of the amber color.

It is important, therefore, to reduce the objectionable reflections as much as possible by means of light-colored backgrounds, awnings and color-lighting in order that the intensity of artificial lighting required be kept to a practicable wattage.

Flexible Lighting

Ordinarily where it seems desirable to use high wattage to overcome daylight reflections, we recommend flexible lighting rather than the 500-watt reflectors. Very high windows, of course, are the exception to this rule.

By flexible lighting, we mean an installation of "Pittsburgh" Permaflectors in two, or three, rows on close centers, each row wired alternately on two circuits, using 100, 150 or 200-watt lamps, usually supplemented by Windo-Spots or Windo-Floods.

With the "Pittsburgh" flexible lighting almost as much wattage can be used as with the 500-watt reflectors at no greater cost for the installation; yet retaining the same effective distribution of light whether all the lamps are on, or whether three-quarters, one-half or one-quarter be used.

The "Pittsburgh" flexible lighting makes it possible to accommodate the lighting in the windows to meet the varying conditions of the day and of the season — five or more levels of illumination available at the touch of a switch.

By using half the reflectors in one row, a level of illumination may be had sufficient for window lighting at certain times.

By using all the reflectors in one row the lighting is adequate for any window at night.

When higher levels of illumination are required as during certain hours of the day all lamps in one row and half in the second may be lighted; or all the lamps in both rows of reflectors; or all in both rows, together with one or more Windo-Spots, if maximum lighting is required.

These advantages of the flexible system of lighting are obvious.

Pittsburgh

What You Should Know About Reflectors

Reflecting surfaces naturally divide into two classes—the diffuse and the specular.

The diffuse reflecting surface, typified by the familiar porcelain or white enamel, or stippled surfaces, simply spreads or scatters the light in many directions, without accurate control.

Specular reflectors not only reflect light, but control it accurately—direct the light where it is wanted; and thus minimize the waste of electric current.

Some light is lost by absorption whenever it falls upon any kind of a surface, just as some water is lost by absorption when it falls upon a hard surface, as a concrete road.

But it is well known to engineers, as well as to the science of optics, that silver-plated glass absorbs less light than any other kind of a surface which it is practicable to use for commercial reflectors.

A polished silver surface has a very high "reflecting co-efficient" as it is called—about 95%. That is, it reflects or returns all but about 5% of the light it receives.

But unprotected silver tarnishes quickly—darkens and loses its reflecting power—and so cannot be used.

When silver is protected by glass, as in the case of mirrors, the silver surface has a coefficient as high as 92%.

The coefficient for silver-plated glass is reduced to perhaps 87% by the absorption of some of the light which passes through the glass itself.

A polished silver surface can also be protected with lacquer—and this has been tried as a substitute for glass, being cheaper. But though the lacquer is apparently transparent when new, it has been found that the reflecting coefficient of the lacquer-protected silver, even when new, is only about 75%. Moreover, the lacquer is easily scratched. But the serious objection to it is that the lacquer darkens with time, eventually reducing the coefficient to less than half its original value.

Freshly polished nickel has a coefficient of 60%, falling off rapidly by tarnishing.

For ready comparison, we give the coefficients of reflection of various surfaces, in tabular form, which any engineer can easily verify for you.

Approximate Coefficients of Reflection

Polished silver, unprotected, new, darkens rapidly	95%
Silver surface, plated on glass	92%
Silver-plated glass	87%
Silver surface, lacquered, new	75%
Silver surface, lacquered, old, as low as	35%
Nickel, freshly polished, tarnishes rapidly	60%
Aluminum and aluminum alloys, less than	60%
Stainless steel, not over	40%
Chromium, not over	65%

From this engineering data, you can readily understand why the reflectors you use should be of silver-plated glass.

But it is not sufficient to select any silver-plated glass reflector. Unless the silver plating be properly protected,

Permaflectors

the silvered reflecting surface will gradually deteriorate until it has no more value than aluminum or stainless steel, or other similar surface.

There is *one* silvered glass reflector which *does stay bright*—the reflecting surface of which does not tarnish or discolor.

Permaflectors stay bright—at the end of ten, fifteen, twenty, twenty-five or thirty years, you will find the reflecting surface just as bright, just as efficient, as when they were first installed.

Just What Are Permaflectors?

Permaflectors are the silver-plated glass reflectors with the *permanent* reflecting surface, made only by Pittsburgh Reflector Company.

We have now completed twelve years of a remarkable manufacturing record. Although "Pittsburgh" Permaflectors are guaranteed for ten years against the following specific faults, of all the "Pittsburgh" Reflectors made since we began using our secret coppering process on August 1st, 1916—twelve years ago—not even one-thousandth of one per cent, not even one in one hundred thousand has ever been reported to us as having the silvered reflecting surface tarnish or discolor or the backing crack, check or peel.

When Type "C" lamps came on the market in 1915, trouble began for manufacturers of silvered glass reflectors.

The greater heat of the new lamp caused the backing to crack, check or peel and the silvered reflecting surface to tarnish or darken.

After a long series of experiments we perfected a process which we have thus far kept secret, whereby we lay a thin sheet of copper over the silver plating. This seals the silver between the glass and the copper.

Like a copper roof—it is a lifetime job.

The silver stays bright!

It is not sufficient that a reflector installation be efficient when first installed.

Initial effectiveness of lighting is important, of course, but it is just as important that this efficiency be maintained.

Reflectors which turn dark from the heat of the lamp are worthless; and replacements, even if without charge for the new reflectors, in no way indemnify the user for the waste of electric current for which he pays, but which is not converted into useful lighting of the display; nor does replacement compensate for the sales lost by reason of the decreased lighting.

Darkening of the reflecting surface can easily lessen the output of light from reflectors 10%, 20%, even one-third or one-half. This may amount to two or three dollars—even four or five dollars per year per lamp—money paid out from which nothing whatever is received in return.

But most important—deterioration in window lighting lessens sales and cuts down profits.

Not only is the "Pittsburgh" ten-year guarantee an agreement to replace any goods of defective manufacture

Pittsburgh

— but this twelve-year history of perfection in manufacture is assurance that replacements will not be needed; that the initial lighting satisfaction will be fully maintained throughout a period of a great many years, and that the lighting installation will cost the user least per year.

"Pittsburgh" Guarantee

We absolutely and unconditionally guarantee that the backing on "Pittsburgh" silver-plated glass reflectors will not crack, check or peel, and that the silvered reflecting surface will not tarnish for a period of ten years from the date of purchase.

Finish

"Pittsburgh" Permaflectors have always been distinctly superior in efficiency, in brilliance and permanence of the reflecting surface, in durability of the backing and assurance against need of replacement.

They are equally distinctive in appearance. The silver color satin finish is wholly different from that of competing articles and has many advantages both to the user and to the trade.

This silver color makes the reflector less conspicuous when not concealed by valance or sign; harmonizes more universally with the variety of colors found in show window ceilings and backgrounds; is suggestive of light, silver and glass; and unlike the enamel heretofore used for reflector backing, this silver color will not darken under the heat of the Type "C" lamp.

A Complete Line

The Permaflector line includes more than 50 different designs — a correctly shaped unit for practically every need in the lighting of show windows, cove lighting, direct and indirect lighting, floodlighting and color lighting. There is scarcely any lighting problem which Permaflectors will not help solve.

Prices

The various Permaflectors and Permaflector products are described in detail on the following pages, with full information as to dimensions, installation, packing, code words, prices, etc.

All prices are F. O. B. Irwin, Pa., the location of our factory and are subject to change without notice.

Distribution Curves

The performance of each reflector is indicated by the light distribution curve. For window reflectors Curve A gives distribution in plane perpendicular to plate glass, whereas Curve B is for plane parallel thereto.

Permaflectors

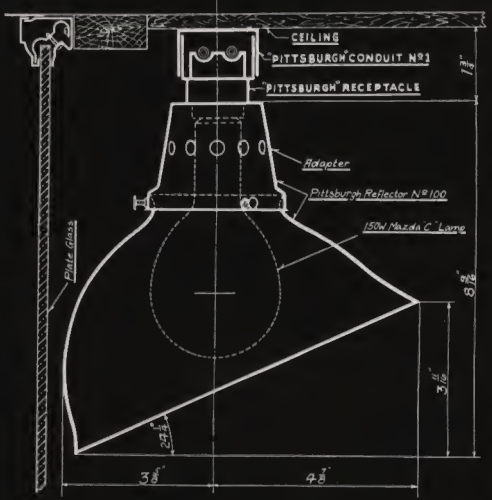
Crystal Glass, made in our own factory that we may control every step of the process. Result—clear, sparkling, uniform.

Copper envelope—seals the silver between glass on the one side and copper on the other. Like a copper roof it is a lifetime protection.

Pure silver, double plated—the surface that reflects light with least loss by absorption.

Silver colored satin finish—distinctive, handsome, harmonizes with all backgrounds.

No. 100



Pittsburgh

Permaflector No. 100

DESIGNED particularly for windows having a depth (plate glass to background) ranging from one-half to three-fourths the distance from floor to reflector. Light flux covers from 0° to 90°.

Strong concentration of light between 5° and 25° gives high floor illumination near the plate glass, the area most distant from the reflector.

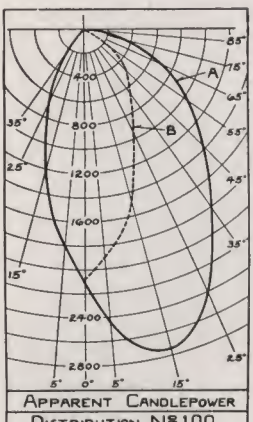
Ideal for windows in which the trim is carried high. Also works well in deeper windows.

Spacing: For uniform distribution of light over the trim, should be spaced 12 inches O. C.; may be spaced as closely as 10½ inches. When so spaced good light distribution may still be had when every other unit only is on. Windows should be wired with alternate outlets on separate circuits.

Size of Lamp: 150-200-watt clear. § Change from one size lamp to another requires merely change of holder adapter. (See page 38.) For side streets of small cities, 100-watt lamps on above spacings are recommended; for main streets of small cities, 150-watt; for side streets of large cities, 150-watt; for main streets of large cities, 200-watt.

Other Uses: Also useful for lighting of rug racks, sales booths of garment manufacturers, interior bulletin boards, interior sales displays, paintings, indirect lighting from coves, for theatre border and proscenium lights.

Flexible Lighting: (See page 4.)
Color Lighting: (See page 35.)
Flush Mounting Ring: (See page 19.)
Holder: 2¼" Form 'O'. (See page 37.)



APPARENT CANDLEPOWER
DISTRIBUTION No 100
200 WATT LAMP

Dimensions:
Height . . . . . 8 7/16"
Width . . . . . 9 1/8"
Front to back . . . . 8½"
Center to back . . . . 3⅝"

Receptacles should be 5½" O. C. from glass; minimum 3¾".

Standard Package 40

Weight, approx. . . . . 98 lbs.

Standard Carton 10

Price: Reflector and one adapter. (See page 36.)
F. O. B. Irwin, Pa. **$4.50**

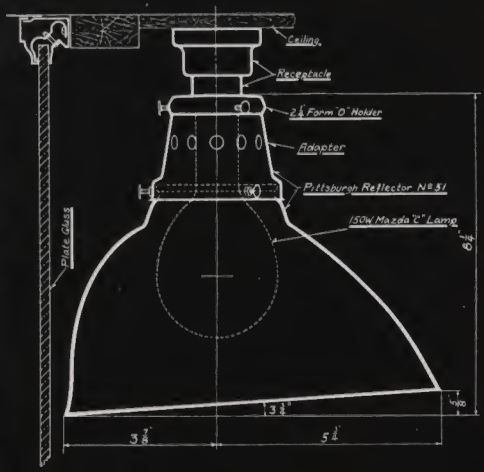
When ordering, specify adapter required.

(If not specified, Adapter No. 1 or No. 2 will be furnished.)

Code: No. 100 with No. 1 Adapter . . . . . Shohunder
No. 100 with No. 3 Adapter . . . . . Hunderthre

Permaflectors

No. 51



Pittsburgh

Permaflector No. 51

DESIGNED especially for high shallow windows; medium high trim; island windows or windows with upper part of background of glass. Concentrating; light cuts off sharply on 55° line.

Exceptional concentration of light in the 5° to 25° angle, insures effective illumination on the floor of the high and shallow windows for which this reflector is intended.

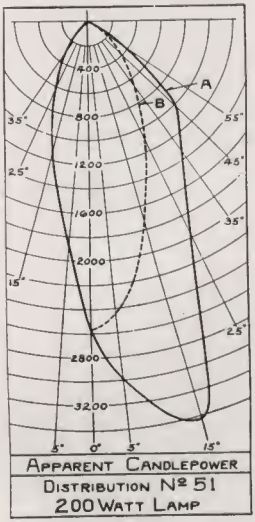
Other Uses: Also useful for borders and strips on theatre stages, indirect side wall urns and coves, side walls of art galleries when placed over skylights.

Spacing: For uniform distribution of light over the trim, should usually be spaced 12 inches O. C.; may be spaced as closely as 10½ inches. When so spaced good light distribution may still be had when every other unit only is on. Windows should be wired with alternate outlets on separate circuits.

Size of Lamp: 150-200-watt clear. § Change from one size lamp to another requires merely change of holder adapter. (See page 38). For side streets of small cities, 100-watt lamps on above spacings are recommended; for main streets of small cities, 150-watt; for side streets of large cities, 150-watt; for main streets of large cities, 200-watt.

Flexible Lighting: (See page 4.) *Color Lighting:* (See page 35.)

Holder: 2¼" Form 'O'. (See page 37.)



APPARENT CANDLEPOWER DISTRIBUTION Nº 51 200 WATT LAMP

Dimensions:
Height.....8⅛"
Width.....9⅜"
Front to back.....9⅝"
Center to back....3⅞"

Receptacles should be 5½" O. C. from glass; minimum 4".

Standard Package.....32

Weight, approx.....96 lbs.

Standard Carton..... 8

Price: Reflector and one adapter. (See page 36.)

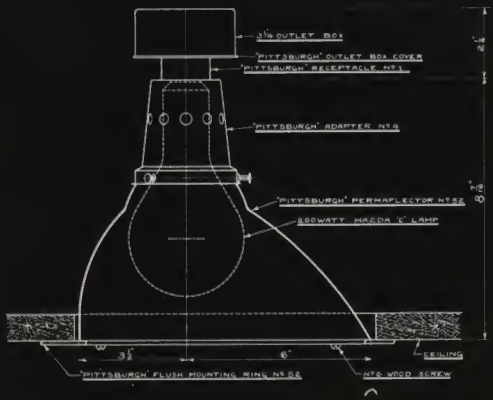
F. O. B. Irwin, Pa. **$5.00**

When ordering, specify adapter required.

(If not specified, Adapter No. 1 or No. 2 will be furnished.)

Code: No. 51 with No. 1 Adapter.....Shofone
No. 51 with No. 3 Adapter.....Fonethre

No. 52



Pittsburgh

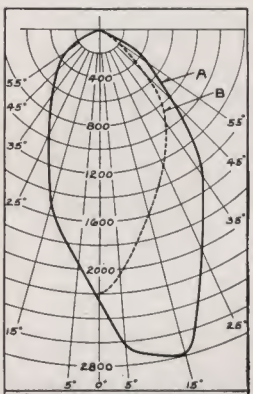
Permaflector No. 52

FOR same general class of windows as No. 51, but designed especially for inserting in ceiling; bottom of reflector is level and can be installed flush with ceiling.

Spacing: For uniform distribution of light over the trim, reflectors should usually be spaced 12 inches O. C.; may be spaced as close as 10½ inches. When so spaced good light distribution may still be had when every other unit only is on. Windows should be wired with alternate outlets on separate circuits.

Size of Lamp: 150-200-watt clear. §Change from one size of lamp to another requires merely change of holder adapter. (See page 38.) For side streets of small cities, 100-watt lamps on above spacings are recommended; for main streets of small cities, 150-watt; for side streets of large cities, 150-watt; for main streets of large cities, 200-watt.

Other Uses: Also useful for lighting automobile show rooms, show windows having open backs as in grocery stores, and for small store windows of other types. The illumination will carry to a line on the floor of the window a distance of 1.6 times the height of the reflector above the floor. For example, if the reflectors are mounted 10 feet above the floor the light will carry back 16 feet from the plate glass on the floor of the window.



APPARENT CANDLEPOWER
DISTRIBUTION Nº 52
200 WATT LAMP

Flexible Lighting: (See page 4.)
ColorLighting: (Seepage35.)
Holder: 2¼″ Form 'O'. (See Page 37.)
Dimensions:
Height . . . . . 7 17/32″
Width . . . . . 9″
Front to back . . . . . 9½″
Center to back . . . . 3½″
Receptacles should be 5½″ O. C. from glass; minimum 4″.
Standard Package 32
Weight, approx. . . . . 96 lbs.
Standard Carton 8
Price: Reflector and one adapter. (See page 36.)
F. O. B. Irwin, Pa. **$5.00**

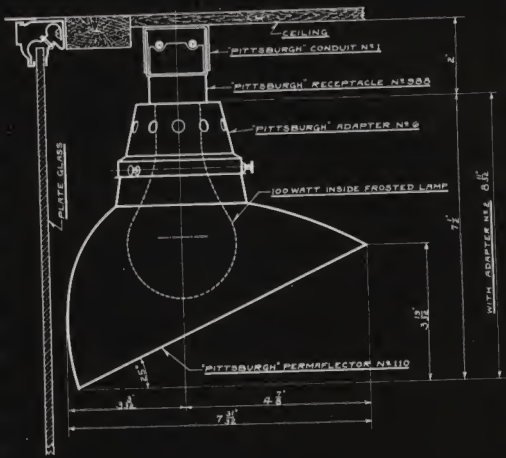
When ordering, specify adapter required

(If not specified, Adapter No. 1 or No. 2 will be furnished.)

Code: No. 52 with No. 1 Adapter . . . . . Shofitu
No. 52 with No. 3 Adapter . . . . . Fituthre

Permaflectors

No. 110

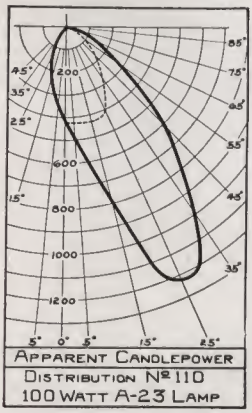


Pittsburgh

Permaflector No. 110

For low, deep show windows, 3 to 7 feet high, in which trim is carried up to the level of the reflectors. In the plane perpendicular to the plate glass of the window, it illuminates to 95 degrees above the nadir on the trim side.

Also for wall cases, interior bulletin boards, paintings, cove lighting in theatres, churches, etc.



APPARENT CANDLEPOWER DISTRIBUTION Nº 110 100 WATT A-23 LAMP

Spacing: Usually spaced 12 inches on center; may be spaced as closely as 9 inches. When so spaced, good distribution may be had with only every other unit burning. Should be wired with alternate outlets on separate circuits.

Flush Mounting Ring: (See page 19.)

Color Lighting: (See page 35, Color-Lite No. 5.)

Lamps: 100-watt, A-23 (inside frosted) and 150 watt clear.

For side streets of small cities, 100-watt lamps on above spacings recommended; main streets of small cities, 150-watt lamps; side streets of large cities, 150-watt; main streets of large cities usually require the use of 200-watt lamps, for which Permaflector No. 100 would be required.

Holder: 2¼" Form 'O'. (See page 37.)

Dimensions: Height, with No. 1 Adapter.....8"
Height, with No. 5 Adapter.....7¼"
Opening circular, Diameter.....8½"

Slope of Reflector opening, 25 degrees above horizontal.

Receptacles should be spaced 5½" O. C. from glass—minimum, 3½ inches.

Standard Package.....32

Weight, approximately.....52 lbs.

Standard Carton..... 8

Price: Reflector and one Adapter, (see page 36)..**$4.25**
F. O. B. Irwin, Pa.

When ordering, specify adapter required.
(If not specified, Adapter No. 5 or No. 6 will be furnished.)

Code: No. 110 with No. 1 Adapter.....Shohunten
No. 110 with No. 5 Adapter.....Huntenfive

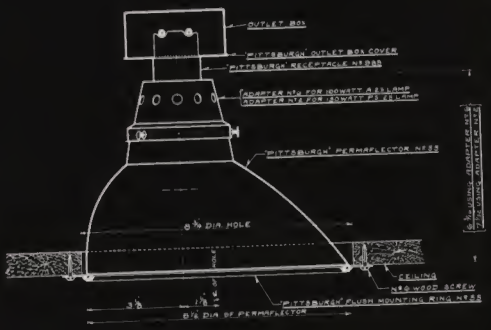
Permaflector No. 55

For medium size shallow windows; medium high trim; island windows, or windows with upper part of background of glass. Concentrating; light cuts off between 65 and 70 degrees.

Exceptional concentration in the 5 to 35 degree angle, insuring effective illumination on the floor of the shallow window for which this reflector is intended.

(Continued on page 19)

No. 55



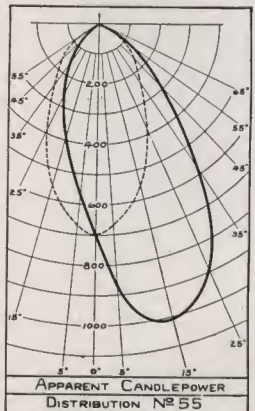
Pittsburgh

Permaflector No. 55

(Continued from page 17)

Also for borders and strips on theatre stages, indirect side wall urns and coves, side walls of galleries when placed over skylights.

Spacing: Usually 12 inches O. C.; may be spaced as closely as 9 inches.



APPARENT CANDLEPOWER DISTRIBUTION No 55 100 WATT A-23 LAMP

Flush Mounting Ring: (See below.)

Color-Lighting: (See page 35.) Color-Lite No. 5.

Lamps: 100-watt, A-23 (inside frosted) and 150-watt clear.

Holder: 2¼" Form 'O'. (See page 37.)

Dimensions:

Height, with No. 1 Adapter.....6 11/16"

Height, with No. 5 Adapter.....5 15/16"

Opening circular, Diameter.....8½"

Receptacles should be 6" O. C. from glass — minimum.....3½"

Standard Package.....32

Weight, approx.....54 lbs.

Standard Carton..... 8

Price: Reflector and one Adapter (see page 36) ...**$4.25**
F. O. B. Irwin, Pa.

Code. No. 55, with No. 1 Adapter, Shofifi.
No. 55, with No. 5 Adapter, Fififive.

When ordering, specify adapter required.

(If not otherwise ordered, Adapter No. 5 or No. 6 will be furnished, for use with 100-watt (inside frosted) lamps.) **See page 36.**

Flush Mounting Rings


No. 100-52-500-551


No. 55

No.	For Permaflector No.	Standard Package	Standard Carton	Code Word	Price, F.O.B. Irwin, Pa.
100	* 100	40	10	Hundering	**$1.25**
52	§ 52	32	8	Flumoring	**1.25**
500	* 500	8	1	Flufihun	**1.75**
551	* 551	8	1	Flufifone	**1.75**
55	√ 110	32	8	Fluhunten	**.75**
55	√ 55	32	8	Fluhunten	**.75**
55	√ E - 100	32	8	Fluhunten	**.75**
55	√ I - 75	32	8	Fluhunten	**.75**

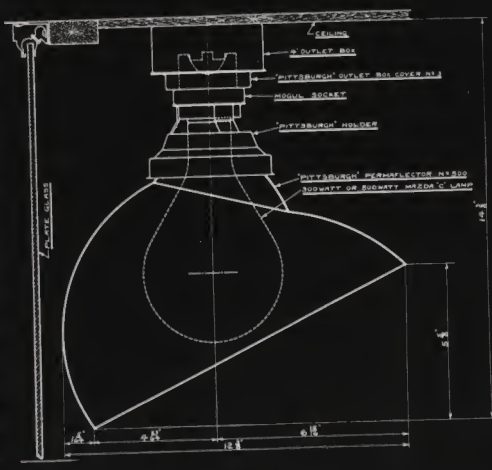
* Blueprint free on request, showing exact size to cut hole in ceiling.

§ Pressboard templet free on request.

√ Hole in ceiling to be circular, 8¾" in diameter. Blueprint free on request, showing how to locate centers.

(If Color-Lites are to be used with the flush mounting rings, so state when ordering.)

No. 500



Pittsburgh

Permaflector No. 500

DISTRIBUTION — wide spreading. Designed for large, deep windows in which the trim is carried up high. Since it is designed for use with the 300 and 500-watt lamp, it will find its principal use in exceptionally large windows where high intensity lighting is necessary. Not recommended for windows less than 8 feet high.

Spacing: Should be installed 15 inches O. C., which will permit burning each alternate unit without making the distribution of light uneven when it is desirable to cut the light in half. In small cities, 300-watt lamps may be used; in large cities, 500-watt lamps.

Special Comment: There is a tendency toward use of one large reflector where several small ones should be used, resulting in lack of uniform illumination on the trim and undesirable shadows. There also seems to be an idea that large lamps and reflectors are necessary to get high intensity in window lighting. This is not correct — see page 4, "Flexible Lighting."

Flush Mounting Ring: (See page 19.)

Lamps: For use with 300-500-watt lamps.

Dimensions:

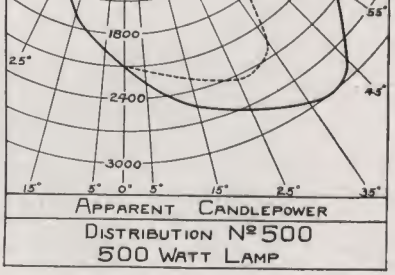
Height	$14\frac{7}{32}$"
Width	12"
Front to back	$12\frac{3}{8}$"
Center to back	$5\frac{7}{16}$"

Receptacles 6" O. C., from glass.

Standard Package	8
Weight, approx.	92 lbs.
Standard Carton	1

Price: Each, as illustrated, with holder, Mogul socket and cover for 4" box F. O. B. Irwin, Pa. **$12.50**
(When used on conduit, discard box cover and attach holder to conduit.)

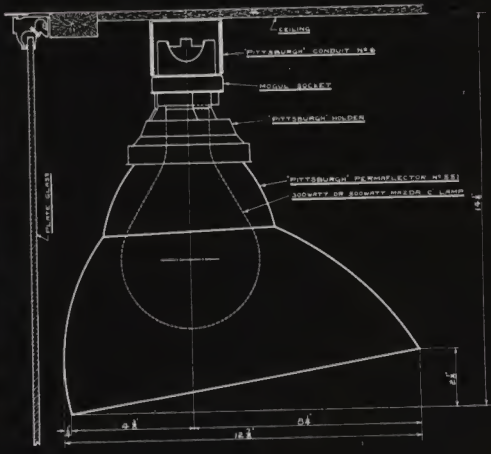
Code: Shofihun.



APPARENT CANDLEPOWER
DISTRIBUTION Nº 500
500 WATT LAMP

Permaflectors

No. 551



Pittsburgh

Permaflector No. 551

DISTRIBUTION similar to No. 51. In general designed for exceptionally high windows where high intensity lighting is necessary. Not recommended for windows less than 8 feet high.

Spacing: Should be installed 15 inches O. C., which will permit burning each alternate unit without making the distribution of light uneven when it is desirable to cut light in half. In small cities 300-watt lamps may be used; in large cities, 500-watt.

Special Comment: One large reflector should not be used where several small ones are required. To do so results in lack of uniform illumination on the trim with undesirable shadows; and where every other reflector is lighted this condition is aggravated.

When in doubt whether to use a single row of large reflectors or the "Pittsburgh" Flexible Lighting the "Pittsburgh" Engineering Department should be consulted. (See page 4.)

Flush Mounting Ring: (See page 19.)

Lamps: For use with 300-500-watt lamps.

Dimensions:

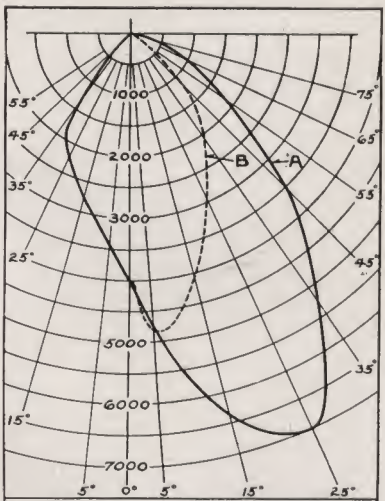
Height.....14 7/32″
Width.....12″
Front to back....12 1/8″
Center to back... 4 5/8″

Receptacles, 6″ O. C. from glass.

Standard Package..... 8
Weight, approx.....94 lbs.
Standard Carton..... 1

Price: Each, as illustrated, with holder, Mogul socket and cover for 4″ box F. O. B. Irwin, Pa. **$12.50**
(When used on conduit, No. 6, discard box cover and attach holder to conduit.)

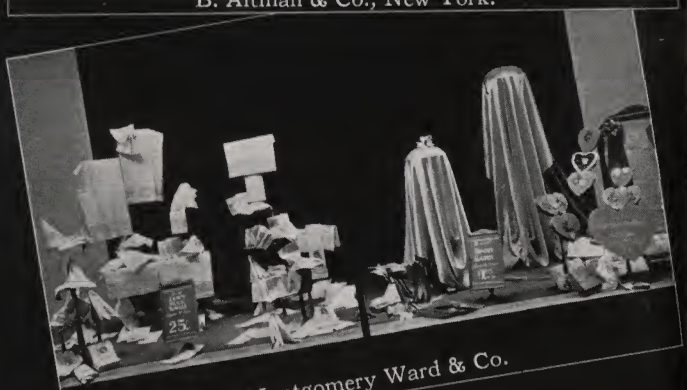
Code: Fifiwon.



APPARENT CANDLEPOWER
DISTRIBUTION Nº 551
500 WATT LAMP

Permaflectors

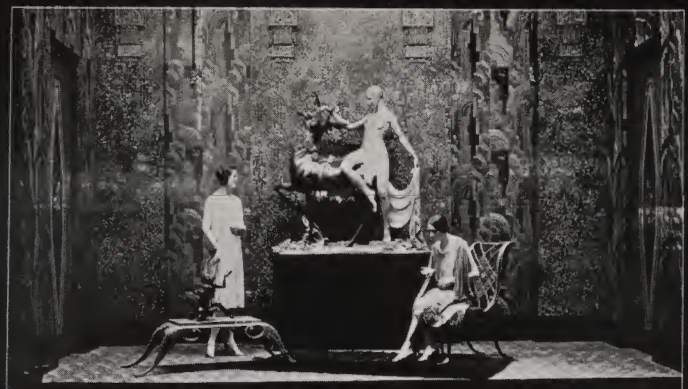
B. Altman & Co., New York.



Montgomery Ward & Co.

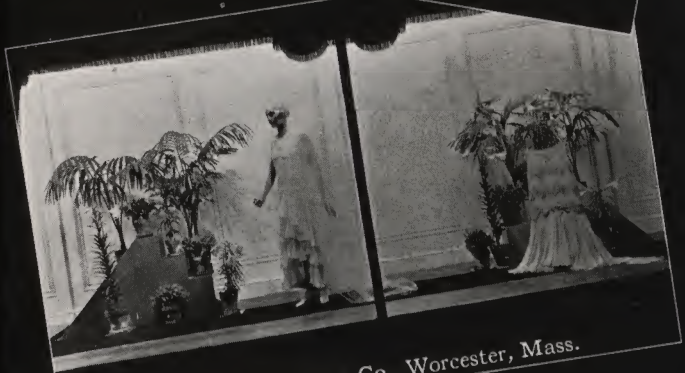
Eastman Kodak Stores, Inc.

Hudson Bay Co., Vancouver.



Marshall Field & Co., Chicago.

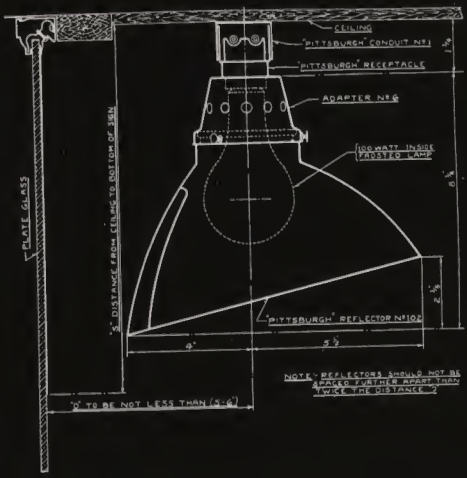
Wm. Hengerer, Buffalo.



Wm. Filene's Sons Co., Worcester, Mass.

Selfridge, London, England.

No. 102



Pittsburgh

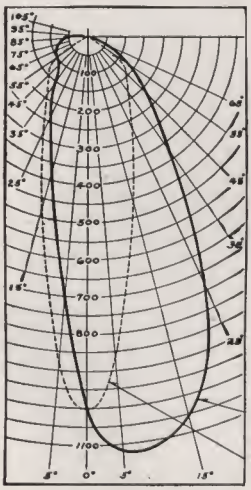
Permaflector No. 102

DESIGNED specifically for a dual service — the lighting both of a transparent sign and of the window display. A certain class of stores, particularly drug and cigar stores, use signs painted along the top edge of the plate glass. Where it is possible to install with bottom of the reflectors above the top of the sign, the regular "PITTSBURGH" window reflectors will effectively light both sign and display. But where the top of the sign is at the level where reflectors must be mounted, it has not been possible heretofore to effectively light both.

Spacing of Reflector: To provide even lighting of the transparent sign or valance, assuming that receptacles on which reflectors are mounted are approximately level with top of sign:

With Maximum Depth of Sign	Receptacles Should Be Distant from the Glass	Maximum Spacing between Reflectors
12″	6″	12″
13″	7″	14″
14″	8″	16″
15″	9″	18″
16″	10″	20″
17″	11″	22″
18″	12″	24″

Ordinarily the spacing between reflectors should not exceed 12 inches, excepting in locations where the general standard of window lighting is very low or in the case of very small show windows.



Light Distribution: In the laboratory distribution curve herewith note that the sign lighting is accomplished without appreciable loss of "punch" of the main beam.

Lamp: 100-watt A-23.

Holder: 2¼″ Form 'O'.

Dimensions:
Height.....8⅛″
Width.....9⅞″
Front to back.....9½″
Center to back....4″

Standard Package.....32

Weight, approx.....96 lbs.

Standard Carton..... 8

Price: Each, as shown.....**$5.50**
F. O. B. Irwin, Pa.

Code: Hundertu.

Permaflectors

Windo-Spot No. 500

Apparent Candlepower. Distribution Windo-Spot No. 500. 500-Watt Lamp.

Pittsburgh

Permaflector Windo-Spots and Windo-Flood

PROVIDE an effective method of high lighting with clear or colored light portions of the window display to which particular attention should be drawn.

The Windo-Spots and Windo-Flood are auxiliary equipment and are not intended as the sole sources of illumination in a show window. They perform a very definite and necessary service, however, where a very narrow beam of high apparent candlepower is required.

Spacing: The number installed in a show window depends largely upon the psychological effect at which the display man is aiming. In general, it is well to provide two in each show window as an auxiliary to the regular show window lighting. When wiring the window several conveniently placed extra receptacles should be provided so that the display man will be able to properly place these units.

Other Uses: Useful for reducing daylight reflections and for special applications, such as theatre stages, automobile show rooms where it is desired to silhouette a car against a light background, dance halls for so-called "moonlight" dances, for the lighting of walls of art galleries, skylights and any other purpose where intense illumination is desired over a limited area; and building flood lighting when installed in weatherproof troughs.

Windo-Spot No. 500

Principal Use: For those conditions in show window lighting and for other uses where a more intense beam is desired than is possible to secure with the Windo-Spot No. 200. Gives a very concentrating beam of light similar to Windo-Spot No. 200, but with a candlepower maximum of 52,000, more than 100 candlepower per watt.

The Windo-Spot No. 500 is equipped with an adjustable bracket for attaching to the ceiling of the show window or other supporting surface. Universal motion of the reflector may be secured by loosening the one large thumbscrew; reflector may then be tilted to any desired position and there fixed by tightening the thumbscrew. The bracket is exceptionally sturdy in construction and very easily manipulated. The diameter of reflector is 13½ inches.

Lamps: 300-500-watt clear.
Height overall, including bracket.....18 inches

Furnished complete as shown, with 3 feet of armored cable and attachment plug. Packed 1 to a carton.

Standard Package..... 1
Weight, approximate.....12 lbs.
Price: Each.....**$22.00**
Code: Winspive.

Glass only, (No. C-500), price each.....**$12.00**
Code: Winspigla.
Prices: F. O. B. Irwin, Pa.

(Windo-Spot No. 500 becomes a Window Flood if frosted lamp is used.)

Permaflectors

Windo-Spot

Windo-Spot
with Glass Color-Lite

Pittsburgh

Permaflector Windo-Spot No. 200

THE "PITTSBURGH" Windo-Spot No. 200 does not take the place of standard show window lighting but supplements it with a convenient means of high lighting those parts of displays which should be brought out most strongly.

Throws a flood of white light (or colored if Color-Lite is used) with a strong central spot.

The center beam has a maximum candle power of 18,000, as shown by the laboratory distribution curve herewith. This is equivalent to 90 apparent candle power per watt, and is a very unusual achievement in reflector design.

Simple in construction, light weight and portable; easily attached and removed; handy to operate and low in price.

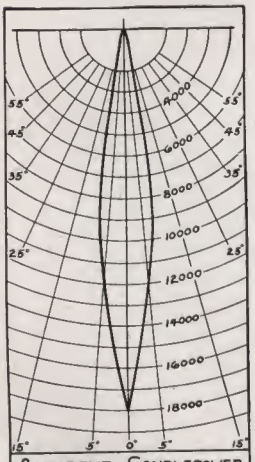
Can be attached by screws or bolts to ceiling, wall or floor or any horizontal or vertical surface.

For use as a portable — simply screw to a block of wood large enough so that it will not upset easily. Or use with metal portable base shown on page 33.

By loosening large wing nut at the top, the supporting stem may be rotated; by loosening the smaller wing nut at the bracket joint, the reflector may be tilted. This makes it possible to get any position necessary to direct the beam of light to any particular object in the window.

Reflector is 10 inches across opening; 12 inches from front of reflector to back of socket.

Either Color-Lite No. 1 or No. 2 (page 35) may be used with it.



APPARENT CANDLEPOWER DISTRIBUTION WINDO-SPOT 200 WATT LAMP

Lamp: 200-watt lamp must be used.
Standard Package..... 8
Weight, approx.....60 lbs.
Standard Carton..... 1
Furnished complete excepting lamp with 3 feet of cord with plug.
Price.....**$10.00**
F. O. B. Irwin, Pa.
Code: Winspot.

"Pittsburgh" Windo-Spot with Color-Lite No. 1 (Page 35).....**$12.50**
F. O. B. Irwin, Pa.
Code: Winspocol.

With Color-Lite No. 2. (Page 35).....**$12.50**
F. O. B. Irwin, Pa.
Code: Winspocoltu.

Glass only (No. C-201)
Price: Each.....**$5.00**
Code: Spotgla.

Permaflectors

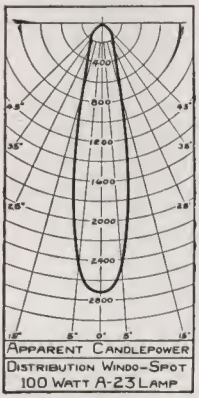
Windo Spot No. 100

Windo-Flood

Pittsburgh

Windo-Spot No. 100

Similar in construction to Windo-Spot No. 200 excepting smaller and equipped with a different reflector.

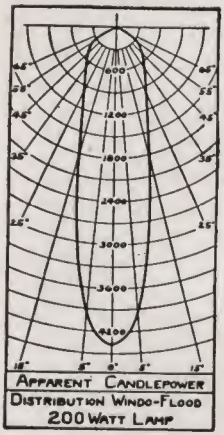


Reflector is 8¼" in diameter.
Overall height, inclusive of socket and holder, 9 inches.
Lamp: 100-watt A-23 (inside frosted) must be used.
Standard Package..... 8
Weight, approx. ..... 56 lbs.
Standard Carton..... 1
Furnished complete, excepting lamp, including three feet of cord and plug.
Price.....**$7.00**
Code: Spohund.
Glass only (No. C-100) **$3.00**
Code: Spohungla.
Windo-Spot No. 100 with Color-Lite No. 5 .....**$9.25**
Code: Spohunlite.

F. O. B. Irwin, Pa.

Windo-Flood

The Windo-Flood differs from the Windo-Spot No. 200 only in design of the reflector, which throws a broader flood of light than the Windo-Spot, but with a central beam of less intensity.



Lamp: 200-watt only.
Standard Package..... 8
Weight, approx.....60 lbs.
Standard Carton..... 1
Furnished complete excepting lamp, including 3-ft. cord with plug.....**$10.00**
Code: Winflud.
Glass only (No. 1-201)
Price.....**$5.00**
Code: Winflugla.
Windo-Flood with Color-Lite No. 1, (page 35)...**$12.50**
Code: Winflucolor.
With Color-Lite No. 2, (page 35).....**$12.50**
Code: Winflucoltu.

Portable Base

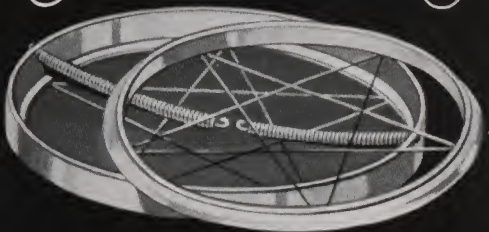
For use with Windo-Spot No. 200 and Windo-Spot No. 100 or Windo-Flood. Cast iron 8 inches in diameter.

Wall plate of Windo-Spot or Windo-Flood to be screwed to the Portable Base.

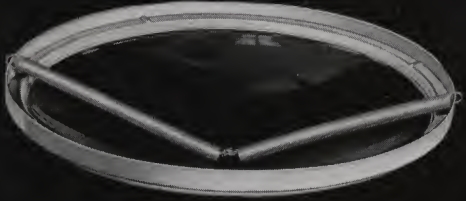
Price, each.....**$1.25**

All prices F. O. B. Irwin, Pa.

Permaflectors

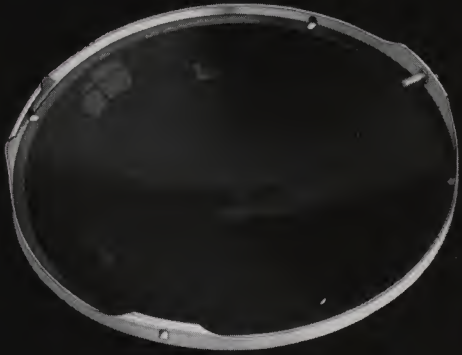


Color-Lite No. 1



Color-Lite No. 2

Color-Cap No. 3



Color-Lite No. 4

Pittsburgh

Permaflector Color-Lites

NOS. 1 and 2 are for use with Permaflectors No. 51, No. 52, No. 100 and Windo-Spot No. 200 and Windo-Flood. To attach merely hook the springs in holes of the adapter; to remove unhook. Neither lamp nor reflector need be removed.

Color-Lite No. 1 (Gelatin)

Consists of retainer frame with spiral springs, inner retainer and four gelatin sheets, one each of red, blue, green and amber. The gelatin is held in place between the two steel rings, each of which have retainer wires stretched across the opening.

Standard Package.....36 *Standard Carton*.....18
Price: Each ..... **$2.50** *Code:* Colite.

Gelatine Circles for Color-Lite No. 1 or No. 5, each..**20c**

Color-Lite No. 5

For Permaflectors No. 110 and 55, E-100, I-75 and Windo-Spot No. 100, similar to Color-Lite No. 1.

Price..... **$2.25** *Code:* Colitefive.

Color-Lite No. 2 (Glass)

Consists of retainer frame with coiled springs, inner retainer and color glass. The color will not fade, glass is heat-resisting and will not break due to heat of lamp; does not shrink or wrinkle; not affected by moisture.

Colors: Red, Blue, Green and Amber.

Standard Package.....28 *Standard Carton*..... 7
Price: Including one color of glass.....**$2.50**
Code: Colortu.

Colored Glass Roundels for Color-Lite No. 2, each. **$1.50**
Code: Colitugla.

Specify color desired when ordering.

Color Cap No. 3

For use with Flood-Lite No. FLC-500 shown on page 79.

Colors Available: Flame Red, Royal Blue, Tree Green, Golden Amber, Daylight and Moonlight.

Standard Package.....24 *Standard Carton*..... 6
Price..... **$4.00** *Code:* Colcap.

Specify color desired when ordering.

Color-Lite No. 4

For use with "Pittsburgh" Reflectors No. P-75, P-100. P-151 and I-60. Consists of retainer frame with one color glass. The clips fit over bead on edge of reflectors and are securely fastened by screw.

Colors: Red, Blue, Green and Amber.
Price: Including one color of glass.....**$2.25**
Code: Colorfor.

Colored Glass Roundels for Color-Lite No. 4, each. **$1.40**
Code: Colofogla.

Specify color desired when ordering.

When Color-Lites are wanted for use with flush-mounting rings (page 21) order must so state.

Adapters

Adapters No. 1, 3 and 5 are to be supported from 2¾" Form "O" Holders. No holders are needed with adapters No. 2, 4 and 6, these being furnished with Easy-to-Install Conduit No. 1 and are attached to the conduit at the factory.

When Permaflectors Nos. 100, 51 or 52 are furnished with Adapter No. 1, 200-watt lamp may be used without changing the distribution of the light, by mounting on 2¼" Form "H" holder, instead of Form "O".

Price each, F. O. B. Irwin, Pa. ..... **$.50**

No. 1

No. 2

For 100 - 150-Watt Clear Lamp No. PS-25

When ordering reflectors Nos. 100, 51 or 52, 55 or 110, for use with 100, 150-watt clear lamps, specify adapter No. 1 if for Form "O" holder and No. 2 if for Conduit.

Code: Adapter No. 1 Adaptone. Code: Adapter No. 2, Adaptu.

For 200-Watt Clear Lamp No. PS-30

No. 3

No. 4

When ordering reflectors Nos. 100, 51 or 52, for use with 200-watt lamps, specify adapter No. 3, if to be mounted on Form "O" Holders and adapter No. 4 if to be mounted on Conduit.

Code: Adapter No. 3, Adapthre. Code: Adapter No. 4, Adapfor.

No. 5

No. 6

For 100-Watt Inside Frosted (A-23) Lamps

When ordering Permaflectors Nos. 55 or 110 for use with 100-watt inside frosted lamps, specify Adapter No. 5 if to be mounted on Form "O" Holders and Adapter No. 6 if to be used on Conduit.

Code: Adapter No. 5, Adafive. Code: Adapter No. 6, Adasix.

The use of the wrong adapter changes the position of the focal center of the lamp in its relation to the reflector, alters the distribution of the lighting and greatly lessens the lighting effectiveness.

Pittsburgh

Holders

FORM "O" and Form "H" Holders are common to the trade and may be had at any electrical store or jobber. Holders are not a part of the Pittsburgh line, but we supply them as a matter of accommodation.

Form "O" (low) Holders 2¼"

No. OB

The Uno Holder for brass shell, threaded sockets.

Price each, F. O. B. Irwin, Pa.....**$.16**

Code: Holdob.

No. OP

Weatherproof, for porcelain sockets with holder grooves.

Price each, F. O. B. Irwin, Pa.....**$.25**

Code: Holderop.

No. S

For Socket Nos. 1 or 3, (page 43) or Assemblies Nos. B-1 or B-2, (page 43)

Price each, F. O. B. Irwin, Pa.....**$.16**

Code: Holdess.

Form "H" (high) Holders 2¼"

No. HB

The Uno Holder, for brass shell, threaded sockets.

Price each, F. O. B. Irwin, Pa.....**$.30**

Code: Holdibee.

No. HP

Weatherproof, for porcelain sockets with holder grooves.

Price each, F. O. B. Irwin, Pa.....**$.50**

Code: Holderpee.

No. L

For Socket Nos. 1 or 3, (page 41) or Assemblies Nos. B-1 or B-2, (page 43).

Price each, F. O. B. Irwin, Pa.....**$.25**

Code: Holderel.

Special Holder No. 10

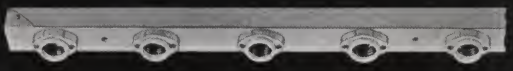
No. 10

For use with B-3 Assembly, (page 43) or No. 6 Conduit (page 41).

Price each, F. O. B. Irwin, Pa.....**$1.50**

Code: Holderten.

Permaflectors



Conduit No. 1

Bracket

Ceiling Hanger

Flexible Joint

Easy to Wire and Install

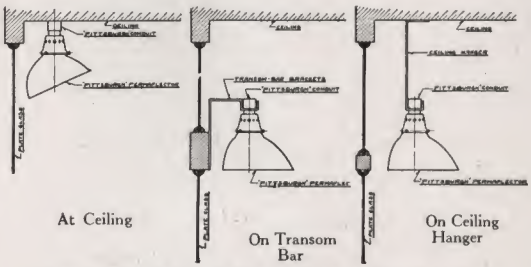
Conduit No. 1, with No. 100 Reflector

Conduit No. 1, with No. 25 Reflector

Pittsburgh

"Easy-to-Install" Conduit

"PITTSBURGH" Easy-to-Install Conduit in combination with Permaflectors constitutes "a window lighting system." Conduit, receptacles, holders and Permaflectors are all finished in silver colored satin finish and harmonize. This conduit provides a time and money-saving method of installing lamps in show windows, especially when close centering of the lamps is needed. Quickly installed, being fastened to the ceiling by screws going directly through the conduit or supported on brackets.



At Ceiling | On Transom Bar | On Ceiling Hanger

Easy-to-Install Conduit avoids necessity of cutting through ceiling or wall for each receptacle and makes it possible to space lamps properly to get even light distribution desired. Made to order to fit each job.

Conduit No. 1

Consists of 20-gauge galvanized steel channel fitted with the necessary porcelain receptacles NOT WIRED and with or without holders for Permaflectors.

Wiring is very simple; the back member being lifted off, the binding screws in the receptacles are exposed; wires can then be quickly skinned and fastened under binding screws.

Code: Condutone.
Size: 1⅜ inches high by 1¾ inches wide. Blank ends or ends with ½-inch hole, furnished as desired, no charge for splicings. Will accommodate six No. 12 wires.
Price: unwired, F. O. B. Irwin, Pa.

Basic price **$1.50** per outlet, with receptacles spaced 12 inches O. C. For wider spacing, add **5c** per outlet for each additional inch above 12 inches spacing. (Disregard fractions of an inch.)

For spacing less than 12 inches O. C. deduct from basic price **5c** per outlet for each inch less than 12 inches. (Disregard fractions of an inch.)

Windo-Spot Outlets, each.....**$1.00**

Add 16c for 2¼-inch 'S' holders; 25c for 'L' holders.
Flexible Joints, each **$1.30.** *Code:* Conjoint.
Brackets, each **50c.** *Code:* Conbrack.
Ceiling Hanger, **75c.** *Code:* Cehang.

When Show Window Reflectors No. 100, No. 51, No. 52, No. 55 and No. 110 are furnished with conduit, holders are not required, the Holder Adapter furnished on these reflectors being attached to the conduit at the factory.

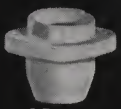
(Continued on page 41)

No. 6 Conduit
with Holder

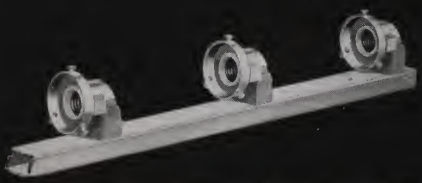
No. 3
Angle Socket

No. 1
Socket

No. 2
Socket



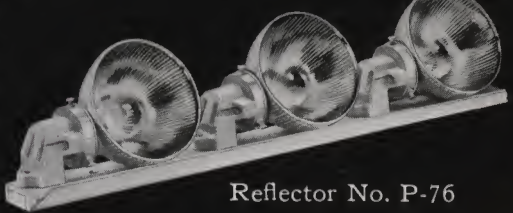
No. 4
Socket



Conduit No. 2 with Angle Sockets

Reflector No. P-40

Reflector No. P-75



Reflector No. P-76

Pittsburgh

Conduit No. 1 is also used in Cove Lighting with Reflectors No. 100, No. 51, No. 52, No. 71, No. 55, No. 110, No. 25, No. 26 and No. 27.

Receptacles

No. 1. Porcelain, (as shown)..... **30c**

No. 2. Porcelain, (as shown)..... **30c**

No. 3. Porcelain, angle socket, (as illustrated), price each..... **80c**

No. 4. Porcelain, for use with No. 6 Conduit, each, **$1.50**

Conduit No. 6

As illustrated, similar to No. 1. Consists of 20-gauge galvanized steel channel, with necessary porcelain receptacles for 300-500-watt lamps, not wired. For use with Permaflectors Nos. 500 and 551, holders on which attach directly to the conduit. Will accommodate about 6 circuits, or 12 No. 12 wires.

Size: $2\frac{3}{4}$" wide x $2\frac{1}{16}$" high.

Blank ends, or ends with $\frac{1}{2}$" hole, furnished as desired. *Price:* List price **$2.75** per outlet, with receptacle, spaced 12" O. C. For wider spacing, add **10c** per outlet for each additional inch above 12" spacing; and deduct **10c** per outlet for each inch less than 12" spacing. (Disregard fractions of an inch.)

F. O. B. Irwin, Pa.

Code: Condusix.

Conduit No. 2

Similar to Conduit No. 1. Size, however, is but $\frac{13}{16}$ by $1\frac{13}{16}$ inch, for use only with "Pittsburgh" Angle Sockets, with "Pittsburgh" Reflectors No. P-40, No. P-75, No. P-76 and No. P-151.

Code: Conditu.

The small size of Conduit No. 2 is ofttimes a great advantage in cove lighting work.

The "Pittsburgh" angle sockets make it possible to rotate the reflectors on their axes after the installation is completed and burning, thus assuring best light distribution.

$\frac{1}{2}$" Knock-out furnished at top or bottom as required.

Basic price, F. O. B. Irwin, Pa., **$2.25** per outlet with receptacles spaced 12 inches O. C. This price includes "Pittsburgh" Angle Receptacles and Form "S" or "L" Holder (page 37). When ordering state which holder.

For wider spacings, add **5c** per outlet for each inch additional above 12 inches spacing; for lesser spacings deduct **5c** per outlet for each inch less than 12 inches. (Disregard fractions of an inch.)

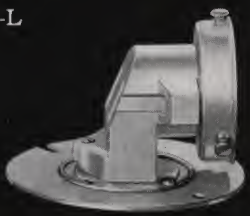
Conduit No. 2-A

Same as No. 2, excepting size is $1\frac{3}{8}$" high by $1\frac{3}{4}$" wide. Has the advantage of accommodating more wires and can be furnished with flexible joints.

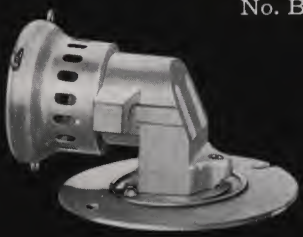
Prices same as No. 2.

Code: Condituaye.

No. B-1-3¼-L

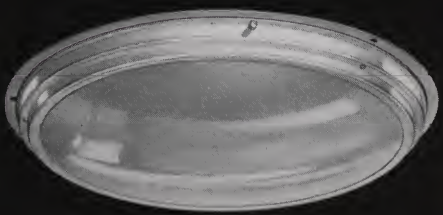


No. B-2-3¼-S



No. B-2-3¼-L

B-3



Hinged Ceiling Roundel

Pittsburgh

Outlet Box Cover Assemblies

Series B-1

For ordinary conduit wiring in Coves, with such reflectors as No. 25, 26, 27, 71, 51, 52, 100, 55 and 110. Consists of a 3½" or 4" outlet box cover, equipped with special "Pittsburgh" porcelain socket No. 1, or arranged to accommodate the No. 2, No. 4 or No. 6 "Pittsburgh" adapters (page 36) by inclusion of holder "S" or "L".

Cat. No.	Consists of	Price F.O.B. Irwin, Pa.	Code
B-1-3¼	Socket and 3¼" outlet box cover	$ .45	Bonethre
B-1-3¼-S	Ditto, plus 2¼" 'S' holder (page 37)	.60	Bonethress
B-1-3¼-L	Ditto, plus 2¼" 'L' holder (page 37)	.70	Bonethrel
B-1-4	Socket and 4" outlet box cover	.45	Bonefor
B-1-4-S	Ditto, plus 2¼" 'S' holder (page 37)	.60	Boneforess
B-1-4-L	Ditto, plus 2¼" 'L' holder (page 37)	.70	Boneforel

Series B-2

For cove lighting jobs where the cove is a circle or ellipse with short radius; in such coves it is not practicable to use "Pittsburgh" Conduit because of the curvature.

The assembly No. B-2-3¼-S and B-2-3¼-L of outlet box cover, angle socket and shade holder illustrated herewith makes it convenient to use the reflectors No. P-40, No. P-75, No. P-76, No. P-100, No. P-151 and No. P-200 in cove lighting work. It does not matter in what position the outlet box is installed, since by means of the slotted center piece the socket may be rotated into alignment with the cove.

Cat. No.	Consists of	Price F.O.B. Irwin, Pa.	Code
B-2-3¼	Angle socket and 3¼" outlet box cover	$1.10	Betuthre
B-2-3¼-S	Ditto, plus 2¼" 'S' holder (page 37)	1.25	Betuthress
B-2-3¼-L	Ditto, plus 2¼" 'L' holder (page 37)	1.35	Betuthrel
B-2-4	Angle socket and 4" outlet box cover	1.10	Betufor
B-2-4-S	Ditto, plus 2¼" 'S' holder (page 37)	1.25	Betuforess
B-2-4-L	Ditto, plus 2¼" 'L' holder (page 37)	1.35	Betuforel

Series B-3

No. B-3 consists of Pittsburgh mogul socket No. 4, with special 4" outlet box cover. Price, each, F.O.B., Irwin, Pa....$2.00
Code: Beethree.

Hinged Ceiling Roundels

Number 1

Diameter 10". Includes stippled heat-resisting glass roundel. For use with Permaflectors Nos. 55, 110, E-100 and 1-75.

Price	$9.00	Code: Roundone.
Glass only	3.50	Code: Rondonegla.
Band only	5.50	Code: Rondoneban.

Number 2

Diameter 14". Includes stippled heat-resisting glass roundel. For use with Permaflectors Nos. E-500, 551 and 500.

Price	$15.00	Code: Roundtu.
Glass only	6.00	Code: Rondtugla.
Band only	9.00	Code: Rondtuband.

Prices F. O. B. Irwin, Pa.

Permaflectors

No. E - 75

No. E - 25

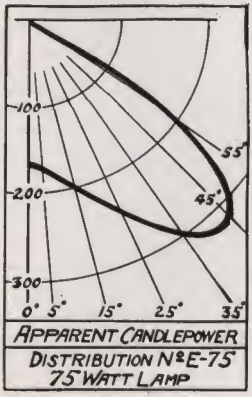
No. E - 26

Pittsburgh

"Pittsburgh" Permaflectors

No. E-75

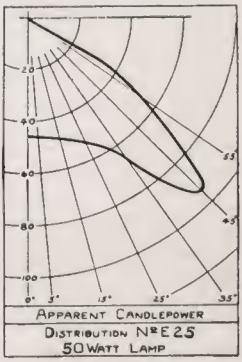
DISTRIBUTING type for low mounting (5-12 feet above work plane) industrial general lighting service; for use in ornamental direct lighting fixtures such as Gothic lanterns in churches, for use in flush mounting in low ceilings.



Lamp: 100-watt A-23 (inside frosted) or 75-watt clear.
Holder: 2¼" Form 'H'.
Dimensions:
Height.....4¾"
Diameter.....6½"
Standard Package.....32
Weight, approx.....64 lbs.
Standard Carton.....8
Price.....**$2.00**
F. O. B. Irwin, Pa.
Code: Esefi.

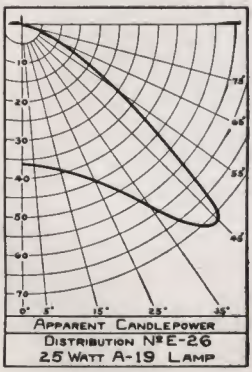
No. E-25

Distributing type for local lighting purposes.
Lamp: 25-watt A-19 and 50 watt A-21 (inside frosted.)
Holder: 2¼" Form 'O' with 25-watt; Form 'H' with 50-watt.
Dimensions:
Height.....3½"
Diameter.....4¼"
Standard Package.....40
Weight, approx.....48 lbs.
Standard Carton.....20
Price.....**$1.75**
F. O. B. Irwin, Pa.
Code: Etufive.



No. E-26

A semi-distributing type for local lighting purposes.
Lamp: 25-watt A-19 (inside frosted) with holder 2¼" Form 'O'.
50-watt A-21 (inside frosted) with holder 2¼" Form 'H'.
Dimensions:
Height.....3 7/16"
Diameter.....5⅝"
Standard Package.....40
Weight, approx.....50 lbs.
Standard Carton.....10
Price.....**$2.00**
F. O. B. Irwin, Pa.
Code: Etusix.



Permaflectors

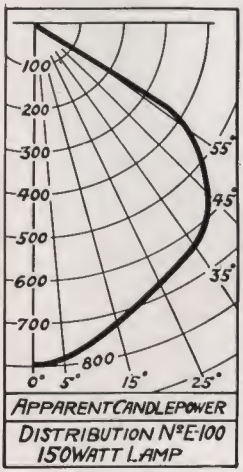
No. E - 100

No. E - 200

No. E - 225

Pittsburgh

"Pittsburgh" Permaflectors



No. E-100

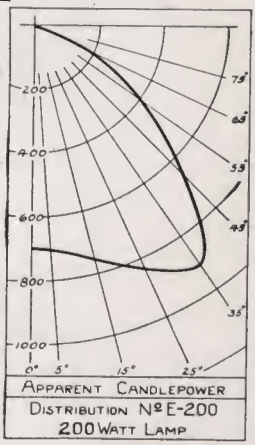
Same as No. E-75, excepting for use with 100-watt A-23 and 100-150-watt clear lamps.

Flush Mounting Ring: (See page 19.)

Lamp: 100-150-watt clear with 2¼" Form 'H' holder; 100-watt A-23 with 2¼" Form 'O' holder.

Dimensions:
Height.....6⅛"
Diameter.....8½"

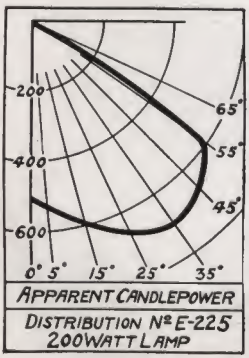
Standard Package.....28
Weight, approx.....65 lbs.
Standard Carton..... 7
Price.....**$3.00**
F. O. B. Irwin, Pa.
Code: Ekun.



No. E-200

Same as No. E-75, excepting for use with 200-watt lamps.

Lamp: 200-watt.
Holder: 2¼" Form 'O'.
Dimensions:
Height.....9"
Diameter.....9½"
Standard Package.....28
Weight, approx....107 lbs.
Standard Carton..... 7
Price.....**$3.75**
F. O. B. Irwin, Pa.
Code: Etuhun.



No. E-225

Semi-distributing, otherwise same as the No. E-200.

Lamp: 200-watt.
Holder: 2¼" Form 'O'.
Dimensions:
Height.....7¾"
Diameter.....9½"
Standard Package.....40
Weight, approx.....94 lbs.
Standard Carton.....10
Price.....**$3.75**
F. O. B. Irwin, Pa.
Code: Etutufi.

E-500

C-100

C-201

Pittsburgh

Permaflector No. E-500

Distributing type intended for intermediate mounting, high intensity industrial service, mounting 12 to 25 feet, above the work plane; for the lighting of gymnasiums; and for flush mounting in ceiling in combination with Hinged Ceiling Roundel No. 2. (See page 43.)

Also useful for installation in Gothic and other designs of lanterns, in churches and public buildings.

Lamp: 300, 500-watt, clear or bowl frosted.

Holder: Special holder, Mogul socket and 4-inch round outlet box cover.

Dimensions:

Glass, Height ..... 9⅛″
Diameter ..... 11⅞″
Overall, Height ..... 14″ including 4″ outlet box

Standard Package 8
Weight, approximately ..... 80 lbs.
Standard Carton 1
Price: Glass only **$7.50**
Code: Eefihugla.
Price: As illustrated **$11.00**
Code: Efihunder. F. O. B. Irwin, Pa.

Permaflector No. C-100

A spot type of reflector useful in very shallow windows. This reflector is used in Windo-Spot No. 100. For distribution curve see page 33. Also a local lighting unit for intensifying the illumination of particular areas.

Lamp: 100-watt A-23 (inside frosted).

Holder: 2¼″ Form "H" or our 2¼″ Form "L" on Conduit No. 1.

Dimensions:

Height ..... 5″
Diameter ..... 8⅛″

Standard Package 40
Weight, approximate ..... 68 lbs.
Standard Carton 10
Price: F. O. B. Irwin, Pa. ..... each, **$3.00**
Code: Seehunder.

Permaflector No. C-201

Also a spot type of reflector useful in high and extremely shallow windows. This reflector is used in Windo-Spot No. 200. For distribution curve see page 31.

Lamp: 200-watt.

Holder: 2¼″ Form "O".

Dimensions:

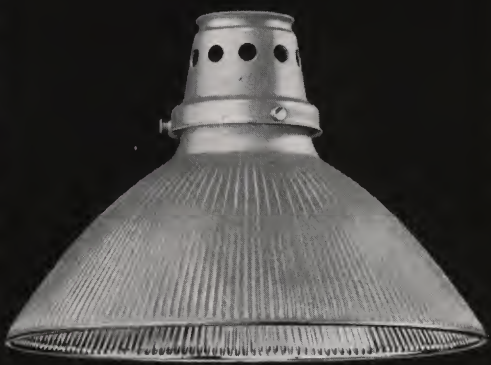
Height (including No. 1 adapter) ..... 9⅜″
Diameter ..... 10″

Standard Package 36
Weight, approximate ..... 99 lbs.
Standard Carton 9
Price: (including one adapter) ..... each, **$5.50**
F. O. B. Irwin, Pa.
Code: Seetuhund.

Permaflectors

No. I - 75

No. I - 100



No. I - 200

Pittsburgh

"Pittsburgh" Permaflectors

No. I-75

An intensive type for low mounting localized industrial lighting (5-12 feet above work plane). Also for ornamental direct lighting fixtures such as Gothic lanterns for churches; for flush mountings in low ceilings; also certain shallow show windows.

Flush Mounting Ring: (See page 19.)

Lamp: 100-watt A-23 (inside frosted) or 75-watt clear.

Holder: 2¼" Form 'H'.

Dimensions:
Height....4¾"
Diameter....8⅜"

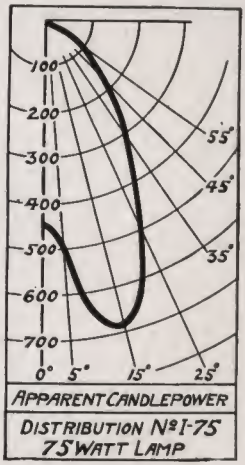
Standard Package....40

Weight, approx....69 lbs.

Standard Carton....10

Price....$2.50
F. O. B. Irwin, Pa.

Code: Isevefy.



No. I-100

Same as No. I-75, excepting it is for 100-watt A-23 and 100-150-watt clear lamps.

Lamp: 100-150-watt clear with 2¼" Form 'H' holder; 100-watt A-23 with 2¼" Form 'O' holder.

Dimensions:
Height....5⅞"
Diameter....9¾"

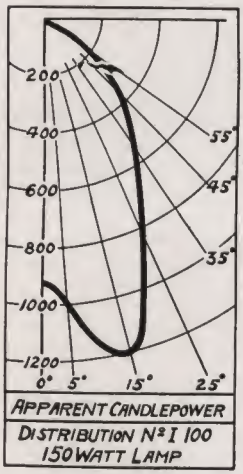
Standard Package....40

Weight, approx....97 lbs.

Standard Carton....10

Price....$3.00
F. O. B. Irwin, Pa.

Code: Ihunder.



No. I-200

A focusing type of reflector for use whenever a highly concentrated beam over a limited area is desired. Primarily a local lighting unit for intensifying the illumination of particular areas.

Lamp: 200-watt.

Holder: 2¼" Form 'O'.

Dimensions:
Height....7⅜"
Diameter....11"

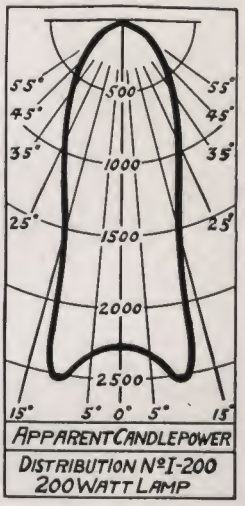
Standard Package....32

Weight, approx....100 lbs.

Standard Carton....8

Price....$6.00
F. O. B. Irwin, Pa.

Code: Ituhunder.



Permaflectors

No. I-502

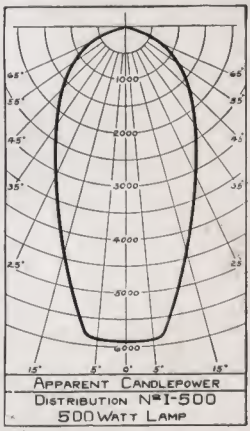
No. I-1000

Pittsburgh

"Pittsburgh" Permaflectors

No. I-500

Same reflector as No. I-502 equipped with holder for attaching to Mogul socket. (Mogul socket and box cover not furnished.)



Similar in purpose to the No. I-1000. Concentrating distribution.

Lamps: 300-500-watt.

Holder: Furnished for attaching to mogul socket.

Dimensions:
Height of reflector 7″
Diameter.....14⅞″

Standard Package.....10

Weight, approx.....45 lbs.

Standard Carton.....5

Price:.....**$9.50**

Code: Ifihund.

Price: glass only...$9.00
F. O. B. Irwin, Pa.

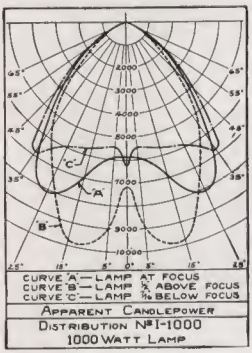
Code: Ifihowon.

No. I-502

Reflector, Mogul socket, 4″ box cover and No. 10 Adapter, (as illustrated), F. O. B. Irwin, Pa. **$12.50**
Code: Ifihotu.

No. I-1000

Designed particularly for industrial lighting where the lighting unit must be from 25 to 50 feet or more above the floor, usually above the crane as well. Also for lighting through skylights. Very concentrating, most of the reflected light being confined to the zone 0 degrees to 40 degrees, with a cut-off at approximately 60 degrees.



Spacing between reflectors should not exceed their height above the work plane.

Lamps: 300-500-750-1000-1500-watt.

As illustrated, for 750, 1000, 1500-watt lamps. For 300-500-watt lamps, lower the receptacle so that upper screw is located at lower arrow.

Holder: Mogul socket and special holder furnished, tapped for ½-inch conduit.

Dimensions:
Height over all.....16¾″
Height of reflector.....8 9/16″
Diameter.....16″

Standard Package.....1

Price: As shown F. O. B. Irwin, Pa.....**$22.00**

Code: Newithosan.

Permaflectors

I-25

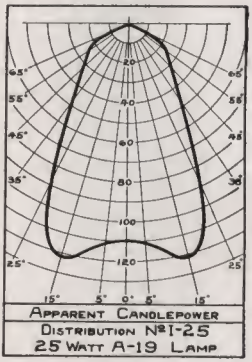
I-60

T-1

71

Pittsburgh

Permaflector No. I-25



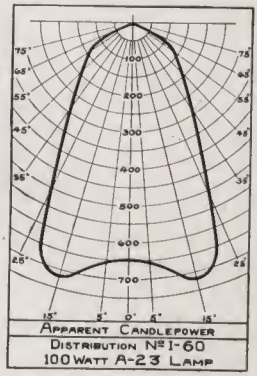
This reflector is of the focusing type, of service whenever highly concentrated beam over a limited area is desired. Particularly designed for the lighting of the exterior of filling stations, with reflectors set at an angle under the eaves of the building. Also useful for theatre service, indirect cove lighting and special applications where space is limited.

Lamps: 15-watt A-19 or 25-watt A-19 (inside frosted).
Holder: 2¼" Form 'O'.
Dimensions: Height.... 3
Diameter.. 4½"
Price: each, F.O.B. Irwin, Pa.....$2.10
Code: Eyetufi.

Permaflector No. I-60

Also a focusing type of reflector, designed for the same uses as No. I-25. Also of service for low mounting industrial use, where a localized overhead system is desired, as over benches, inspection tables, stock shelves, etc.

Lamps: 60-watt A-21 or 100-watt A-23 (inside frosted).
Holder: 2¼" Form 'O' for 60-watt.
2¼" Form 'H' for 100-watt.
Dimensions: Height.... 4 7/16"
Diameter.. 6 3/4"
Price: each, F. O. B. Irwin, Pa.....$2.40
Code: Eyesix.

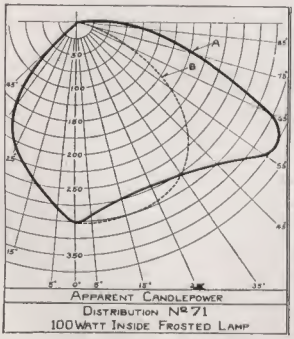


Permaflector No. T-1

For use with traffic lamps.
Lamp: 60-watt Special traffic.
Holder: 2¼" Form 'O'.
Dimensions: Height.... 4
Diameter.. 8 3/16"
Price: each, F. O. B. Irwin, Pa.....$2.75
Code: Trafone.

Permaflector No. 71

For wall cases, interior bulletin boards, paintings, cove lighting, stage footlights. Spacing recommended, 12-inch O. C. May be placed as closely as 8 inches.



Lamp: 100-watt A-23 (inside frosted) and 75-watt clear.
Holder· 2¼" Form 'H'. (See page 37.)
Dimensions:
Height.....5½"
Width.....5½"
Front to back...6¼"
Center to back...2¾"
Receptacles must be not less than 3" from glass.
Standard Package....40
Weight, approx...65 lbs.
Standard Carton 10
Price Each as shown.....$3.50 F.O.B. Irwin, Pa.
Code: Shosewon.

Permaflector

Hotels

Churches

Auditoriums

Banks

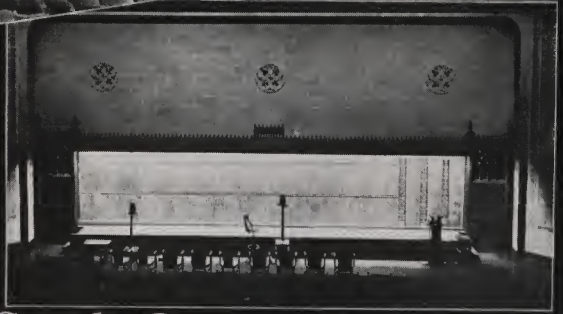
—and for practically ever

Lighting for

Art Galleries

Stores

Theatres



Stock Quotation Boards

lighting requirement!


Pittsburgh

Indirect Fixture No. 500

INDIRECT Lighting Fixture No. 500 is designed primarily for commercial service, such as the lighting of stores and offices. It has pleasing lines and is ornamented just enough to overcome the plainness of commercial indirect lighting units of the past.

The sheet steel bowl contains Pittsburgh Permaflector B-500 and is made of two pieces, telescoping one inside the other, and held together by screws. This method of enclosing the reflector provides a very neat appearing fixture, a fixture that looks just as good from above as from below.

Two of the supporting arms are hinged. The third arm may be disconnected and the bowl dropped on the hinged arms for easily cleaning the reflector. Since the reflector surface is practically smooth on the inside, it may be very easily cleaned and since the reflector is fastened in place in the manner above described, there is no danger of the reflector falling out when the bowl is dropped on the hinged arms.

The sheet steel canopy is harmonious in design with the bowl and employs standard ⅜" fixture strap, secured to the canopy by screws.

The chain is of steel and the length is such that the top of the bowl comes 30 inches from the ceiling.

The Mogul socket is enclosed in sheet steel husk which also serves as the means of supporting the bowl from the cold rolled steel arms. The arms are given a quarter twist to minimize shadows on the ceiling, so common with some types of indirect lighting fixtures.

The finish is a rich old-ivory and will harmonize well with most any store or office interior.

The fixture is designed for use with 300 and 500-watt general service, incandescent lamps.

Dimensions:

Diameter of bowl	14 inches
Depth of bowl	6½ inches
Diameter of canopy	6 inches
Suspension, top of bowl to ceiling	30 inches

Extra chain may be ordered when required.

Standard package quantity	1
Weight, approximately	16 lbs.
Price	**$24.00**

F. O. B. Irwin, Pa.

Code: Fixfihund.

Illumination Design Data

Spacing between units should not exceed ceiling height for ceilings 12 feet or less. For higher ceilings, spacing may exceed ceiling height but not by more than 25 per cent.

For good office lighting, approximately 10 foot-candles, use 300-watt lamps up to 12-foot spacings. For greater spacings, or where higher illumination is desired, use 500-watt lamps.

Permaflectors

No. D-100

No. D-200

No. 27

Pittsburgh

"Pittsburgh" Permaflectors

No. D-100

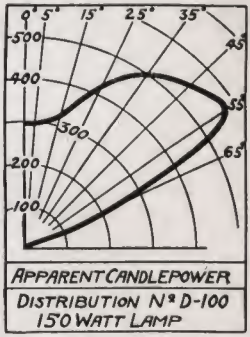
For use in indirect lighting fixtures with the lamp burning tip up.

Lamp: 100-150-watt clear with 2¼" Form 'H' holder; 100-watt A-23 with 2¼" Form 'O' holder.

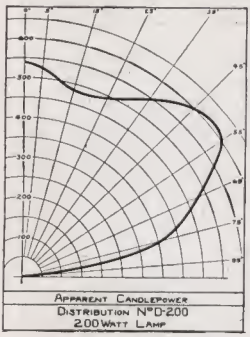
Dimensions:
Height.....4½"
Diameter.....7"

Standard Package.....40
Weight, approx.....67 lbs.
Standard Carton.....10
Price.....$2.75

F. O. B. Irwin, Pa. *Code:* Dashunder.



No. D-200



For use in indirect lighting fixtures, lamp burning tip up. The distribution of light is wider than that of No. D-100.

Lamp: 200-watt.
Holder: 3¼" Form 'O'.
Dimensions:
Height.....5¾"
Diameter.....9½"
Standard Package.....40
Weight, approx....100 lbs.
Standard Carton.....10
Price.....$3.25

F. O. B. Irwin, Pa.
Code: Dastuhund.

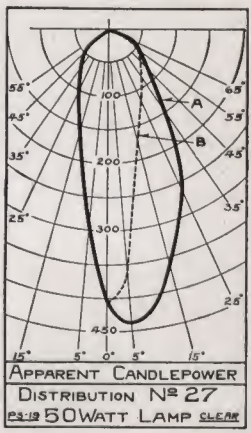
No. 27

Primarily for tall and shallow wall display cases. Concentrating, asymmetric distribution; with maximum candle power at 15° Spacing should be 12" to 15" O. C.

Also useful for lighting small show windows, bank cages, book-cases, stock shelves, for cove lighting, etc.

Lamp: 25-watt, A-19 (inside frosted); 50-watt, A-19 (inside frosted); and 50-watt mill type.
Holder: 2¼" Form 'O'.
Dimensions:
Height.....3⅞"
Width.....6"
Front to back.....6⅜"
Standard Package.....40
Weight, approx.....65 lbs.
Standard Carton.....10
Price.....$2.75

F. O. B. Irwin, Pa.
Code: Tuseven.



Permaflectors

No. 26

No. 25

No. B-100

No. B-500

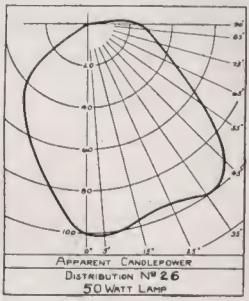
Pittsburgh

"Pittsburgh" Permaflectors

No. 26

A show case reflector.

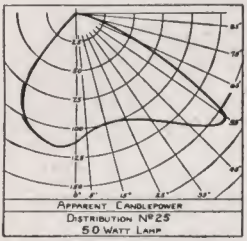
Lamp: 25-watt A-19 (inside frosted) and 50-watt mill type.
Holder: 2¼" Form 'O'.
Dimensions:
Height.....3½"
Front to back ....4 11/16"
Width.....4⅛"
Standard Package.....48
Weight, approx.....35 lbs.
Standard Carton.....24
Price.....**$2.25**
F. O. B. Irwin, Pa.
Code: Toosix.



No. 25

A very useful cove lighting reflector; small in size, hence fits into small coves especially when used with No. 1 Conduit; lighting distribution throws out a maximum at 55° below the zenith, which permits placing cove close to ceiling.

Lamp: 25-watt A-19 (inside frosted) or 50-watt mill type used with 2¼" Form 'O' Holders. 50-watt A-21 (inside frosted) used with 2¼" Form 'H' Holder.
Dimensions:
Height.....4¼"
Width.....4¼"
Front to back of opening .....5"
Standard Package.....40
Weight.....40 lbs.
Standard Carton.....20
Price.....**$2.25**
F. O. B. Irwin, Pa.
Code: Tufie.

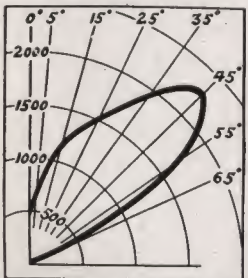


No. B-100

Distribution similar to No. B-500

Lamp: 100-150-200-watt clear.
Dimensions:
Height.....5"
Diameter.....9"
Standard Package.....32
Weight, approx.....75 lbs.
Standard Carton 8
Price: Each.....**$4.00**
F. O. B. Irwin, Pa.
Code: Beedashun.

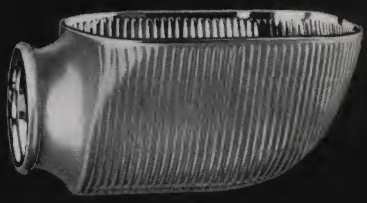
Nos. B-100 and B-500 for use in indirect lighting fixtures. Lamp burning tip down.



No. B-500

Lamp: 300-500-750-1000-watt.
Dimensions:
Height.....6¼"
Diameter.....11½"
Standard Package.....14
Weight, approx....140 lbs.
Standard Carton..... 7
Price.....**$7.50**
F. O. B. Irwin, Pa.
Code: Beefihun.

Permaflectors



No. P-40

No. P-75

No. P-151

Pittsburgh

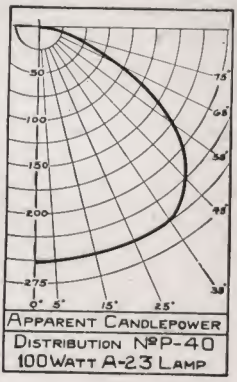
"Pittsburgh" Permaflectors

No. P-40

For indirect lighting from coves. Broad distribution. Usual spacing, 12 inches O. C. Also for lighting wall cases, bank cages, indirect lighting fixtures, art gallery lighting, etc.

Lamp: 50-watt and 60-watt A-21 (inside frosted) with 2¼-inch holder Form 'O'. 100-watt A-23 (inside frosted) or 75-watt clear with 2¼-inch holder Form 'H'.

Dimensions:
Height....2¾″
Width....4¼″
Length....5½″
Standard Package....48
Weight, approx....50 lbs.
Standard Carton....24
Price....$2.50
F. O. B. Irwin, Pa.
Code: Pafort.



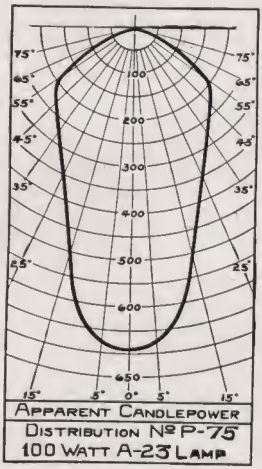
No. P-75

Designed primarily for indirect lighting from coves, where light must be thrown some distance and therefore a concentrated beam of light is desired. Also for indirect lighting fixtures, stock quotation boards, art galleries and also for small shallow windows where overhead room is limited and high intensity is desired.

Color-Lighting: (See page 35.) Color-Lite No. 4.

Lamp: 100-watt A-23, (inside frosted) or 75-watt clear, 2¼″ Holder Form 'O'.

Dimensions:
Height....3″
Diameter....6¾″
Standard Package....24
Weight, approx....75 lbs.
Standard Carton....6
Price....$3.00
F. O. B. Irwin, Pa.
Code: Pasefy.



No. P-151

Designed primarily for indirect lighting from coves, where light must be thrown some distance, and, therefore, a concentrated beam of light is desired.

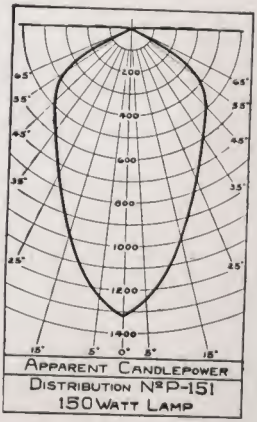
Also for indirect lighting fixtures, rug racks, wall paper racks, wall cases, stock quotation boards, art galleries, and for small shallow show windows, where overhead room is limited and high intensity is desired. Usually spaced 12 ins. on center.

Color-Lighting: (See page 35.) Color-Lite No. 4.

Lamp: 150-watt clear.

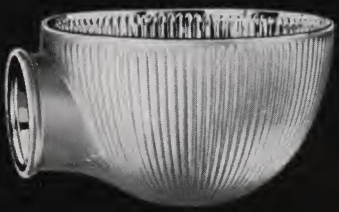
Holder: 2¼″ Form 'O'.

Dimensions:
Height....3⅞″
Diameter....6¾″
Standard Package....24
Weight, approx....63 lbs.
Standard Carton....6
Price, $3.25. F.O.B. Irwin, Pa.
Code: Peehunfone.



Permaflectors

No. P-100



No. P-76

No. P-200

Pittsburgh

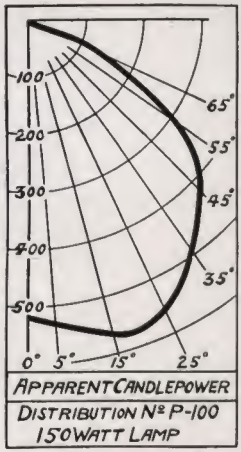
"Pittsburgh" Permaflectors

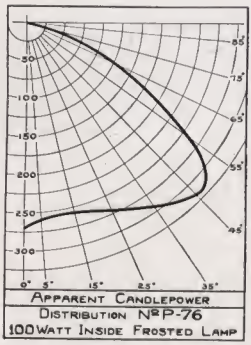
No. P-100

Same class of cove lighting as No. P-40 and No. P-76, particularly where large areas are to be lighted or greater absorption of light must be counteracted by additional wattage. Also for indirect lighting fixtures and for special applications requiring high wattages within limited space. Usual spacings 12" O. C.

Color-Lighting: (See page 35.) Color-Lite No. 4.

Lamp: 100-150-watt clear.
Holder: 2¼" Form 'O'.
Dimensions:
Height.....3⅜"
Diameter.....6½"
Length.....7"
Standard Package.....24
Weight, approx.....55 lbs.
Standard Carton..... 6
Price.....$3.00
F. O. B. Irwin, Pa.
Code: Pahund.





No. P-76

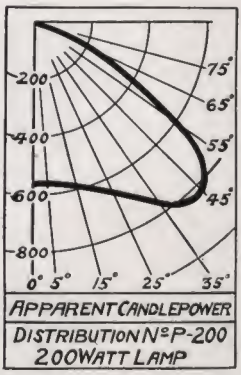
For indirect lighting from coves; distribution broader than No. P-40. Usual spacing 12" O. C. Also for indirect lighting fixtures and special applications where spacing is limited.

Lamp: 50-watt A-21 (inside frosted) with holder 2¼" Form 'O'.
100-watt A-23 (inside frosted) or 75-watt clear with 2¼" Form 'H'.
Dimensions:
Height.....3"
Diameter.....4¾"
Standard Package.....48
Weight, approx.....60 lbs.
Standard Carton.....24
Price.....$2.50
F. O. B. Irwin, Pa.
Code: Pasesix.

No. P-200

Designed primarily for cove lighting; broad distribution. Similar to No. P-100. Usual spacing 12 inches O. C. Also used in indirect fixtures, etc.

Lamp: 100-150-watt clear with 2¼" Form 'O' holder.
200-watt with 2¼" Form 'H' holder.
Dimensions:
Height.....4¼"
Diameter.....7¼"
Length.....8"
Standard Package.....24
Weight, approx.....63 lbs.
Standard Carton..... 6
Price.....$3.75
F. O. B. Irwin, Pa.
Code: Patuhund.



Permaflectors

Flood-Lighting

A decade ago, a new form of display lighting was made possible through the development of floodlighting equipment and of incandescent lamps with a concentrated light source, together with reduced cost of electrical energy. Previously, display lighting was accomplished by the use of small electric lamps outlining buildings or monuments, or draped festoons around them. At best, such lights could only outline the structure. They contributed little toward bringing out the form, contour and architectural beauty.

However, when it became possible to enclose incandescent lamps having a concentrated filament, within a weatherproof lighting unit containing a silvered glass reflector capable of delivering a sharply focused beam of light, it was then possible to bathe an entire structure with light from distant points, and thus simulate the daylight effect.

Therefore, imposing structures, such as large office buildings, banks, theatres, dance halls, state capitals and other public buildings were illuminated at night in this manner.

Although the ability to bathe an entire structure with white light is a pleasing accomplishment, to "paint a building with ever-changing blended hues of colored light scintillating against the black dome of the night sky," is an achievement of the highest order in the night illumination of the exterior of buildings and monuments.

The lighting of the Edison Building at Philadelphia, through the use of Permaflector Flood Lights, is an outstanding example of decorative floodlighting in changing colors.

Building owners having office space and store space to rent to tenants see in floodlighting a means of better establishing the location of the building and thus increasing its rental value.

After floodlights became available, a variety of other uses suggested themselves and were tried out. Some of these are listed in Tables III and IV.

Intensity of Illumination Required

Obviously, the intensity of illumination necessary for the particular purpose will depend upon the use to which the floodlight is to be put. Tables III and IV by the Engineering Department of the National Lamp Works give the desirable intensities in foot-candles for a variety of purposes.

TABLE III

Some Floodlighting Applications and Desirable Levels of Illumination for Each in Foot-Candles.

RECREATIONAL AREAS	Foot-Candles
Bathing beaches	.5 to 1
Football stadiums	6 to 12
Golf greens	6 to 10
Ice skating	1 to 2
Pageants	10 to 20
Playgrounds	2 to 4
Swimming pools	3 to 6
Toboggan slides	1 to 2
Trap shooting	10 to 15

Pittsburgh

UTILITARIAN AND PROTECTIVE PURPOSES

	Foot-Candles
Construction work	4 to 6
Dredging	1 to 2
Gasoline service stations	
Buildings and pumps	10 to 15
Yard and driveways	2 to 4
Parking spaces	5 to 1
Protective industrial	5 to 1
Quarries	2 to 4
Shipyards	4 to 6

SPECIAL APPLICATIONS

	Foot-Candles
Community Christmas trees	10 to 20
Flags	15 to 25
Loading docks	2 to 3
Loading platforms	2 to 3
Monuments	(See bldgs.)
Signs	10 to 30
Smoke stacks	8 to 12
Stained glass windows	15 to 30
Waterfalls	5 to 10
Water Tanks	8 to 12

TABLE IV

BUILDINGS	Foot Candles for Downtown* Buildings in Cities of Population:		
Building Material	50,000 or over	50,000 to 5,000	Under 5000
White or Cream Terra Cotta	10	8	6
Select Gray Limestone Indiana or Bedford Stone Buff Limestone	12	9	6
Buff Artificial Stone Standard Gray Limestone Smooth Buff Face Brick	14	10	7
Briar Hill Sandstone Smooth Gray Brick Gray Limestone	17	12	8
Common Tan Brick	22	16	10
Dark Field Gray Brick (Rough Finish)	28	20	4

*For buildings in outlying districts, use the foot-candle recommended for downtown buildings in cities of the next smaller classification.

NOTE: Buildings composed of common red brick or brownstone cannot economically be floodlighted unless there is a large amount of light trim.

LOCATION OF FLOOD-LIGHTING EQUIPMENT

The location of floodlighting equipment will depend upon the design of the structure to be illuminated. For the usual commercial type of building, floodlights located at some distance away provide a simple method.

On modern skyscrapers having numerous set-backs the floodlights may be located on the structure of the building itself. This was done in the case of the Edison Building, illustrated on the first page of this catalogue. This new type of skyscraper architecture will usually make location on the building itself possible. Also, the dome of a capital building may be illuminated in this manner because usually such buildings have wings extending in the four directions of the compass.

Sometimes floodlights may be located upon extending cornices. However, where light is projected at acute angles upon the building surface, projections may cause dark obliquely upward shadows. The effects of such shadows should be carefully studied to see if they will be objectionable or not.

Another possible method is to illuminate from the top of the building downward by equipment extending over the parapet wall at night, but removed in the daytime. A movable supporting mechanism, motor driven, if desired, may be constructed to accomplish this object.

TYPES OF EQUIPMENT

The distance from which the light must be projected to illuminate a surface will determine the type of flood-lighting unit required. Also, the direction in which the light must be projected will have a bearing on the choice of the particular type of unit. For horizontal or downward direction of the light, floodlights such as Pittsburgh FL-300, FL-500 and FL1500 will be found preferable. Where the light is directed upward at acute angles, floodlights such as Pittsburgh FLC-250, FLC-500 and FLC-1000 will be preferable.

It is generally conceded that the best reflectors for this class of lighting service are Permaflectors, because they not only provide the control of light necessary, but because of their permanently high efficiency. Since the reflecting surface, the silver, is protected on the front by glass, it is only necessary to clean the glass in order to restore the reflectors to the initial efficiency. Attempts to restore polished metal reflectors tend to depolish them and destroy light control.

FLOOD-LIGHTING CALCULATION DATA

Flood Light No.	Beam Spread	Lamp Watts	Beam Lumens
FLC-250	16°	250 G-30	1374
FL-300	50°	300	1830
FL-500	13.6°	500	3130
	39.0°	500	4130
FL-1500	x	x	x
FLC-500	19.6°	500	3540
	28.0°	500	3820
FLC-1000	19.6°	1000	8260
	28.0°	1000	8920

NOTE: All units employ general service lamps except FLC-250 which uses G-30 flood-lighting lamp.

Allowance of 12% for absorption in cover glass must be made in making calculation.

x –not available.

Pittsburgh

Pittsburgh Flood-Light FLC-250

A very concentrating floodlight, designed for use with the 250-watt G-30 floodlighting lamp. Particularly useful for floodlighting buildings from locations on the building itself, such as cornices, setbacks, etc., where space is limited and for intermediate throws.

Serves essentially the same purpose as Flood-Light FLC-500 for shorter distances and smaller areas to be covered.

Constructed of heavy gauge, Armco iron, heavily galvanized both inside and outside. Equipped with adjustable base, permitting rotation through 360 degrees and tilting through practically 180 degrees, thereby permitting accurate adjustment of the beam in any desired direction.

Cover containing heat-resisting glass is hinged and held under pressure against asbestos gasket by three spring clip fasteners.

External focusing knob makes possible focusing with the lamp burning when results may be observed.

Beam spread, 16 degrees; lamp 250-watts G-30; beam lumens, 1374; candle-power maximum at center of beam, 70,750.

Lamp: 250-watt C-30 floodlighting. (For base down service only.)

Dimensions:

Height, overall .... 14″ Diameter of base..3½″
Diameter ..... 12″ *Standard Package* 1

Price as shown, without Color-Lite and without lamp.....**$30.00**

Code: Fludtufivo.

Glass Color-Lite in four colors, red, blue, green and amber, available. These Color-Lites are installed inside of heat-resisting cover glass.

Price of Color-Lite No. F-1 .....**$2.50**

Code: Flucolone.

F. O. B. Irwin, Pa.

Permaflectors

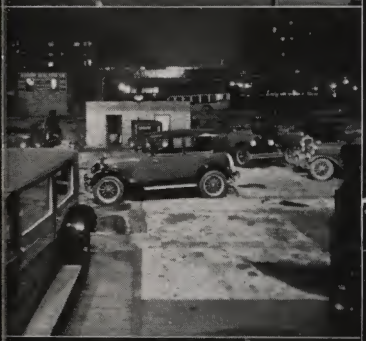






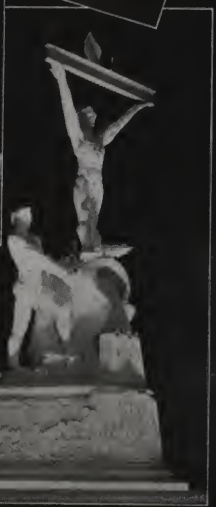
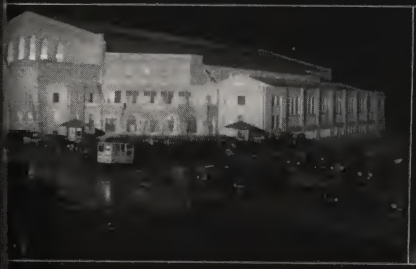








No. FL-500

Pittsburgh

"Permaflector" Flood-Light

No. FL-500

Focusing: Three adjusting screws allow the lamp to be raised or lowered, moved from side to side, from front to back or back to front, providing for perfect control of lamp in either plane. Permits rapid change of beam spread from 7½° to 30°. All moving parts, adjustments, screws, etc., are of brass. No corrosion and freezing.

Housing: Cast iron base door, door frame and cowl with drum of heavy Armco iron, rust-proofed by special process. Door, equipped with heat-resisting clear glass, cemented in; waterproof.

Cowl: Carries socket and adjusting mechanism.

Finish: All metal parts, excepting cast iron, treated to prevent rusting, finished in satin silver color.

Reflector: Especially designed "Pittsburgh" reflector 16 inches in diameter. Finished in satin silver color.

Lamp Size: 300-500-watt.

Dimensions:

Width	21″
Height with low base	28¼″
Front to back	12″
Diameter of base	8″

Weight.....86 lbs.

Packing: Fully assembled and packed one to a carton.

Price, as shown (page 74) *Code*: Fludofi.....**$70.00**
With high base. *Code*: Fludofihi.....**$74.50**
With bracket base, *Code*: Fludofibra.....**$73.00**

F. O. B. Irwin, Pa.

No. FL-1500

Same as No. FL-500, excepting different reflector.

Lamp Sizes: 750-1000-1500-watt.

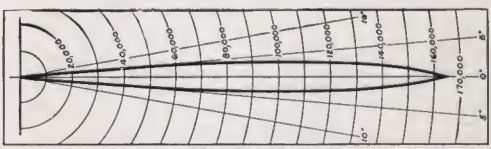
Dimensions:

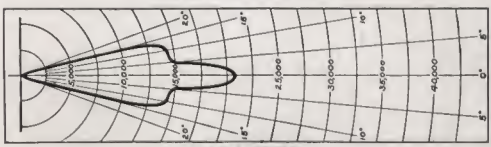
Width	24½″
Height with low base	30″
Front to back	12⅛″

Weight.....110 lbs.

Price (*Code*: Flufifteen.).....**$100.00**

F. O. B. Irwin, Pa.





APPARENT CANDLEPOWER
DISTRIBUTION NO. FL-500—500-WATT LAMP

Permaflectors

Pittsburgh
Flood-Light
FL-300.

Pittsburgh

Flood-Light No. FL-300

COMPARATIVELY broad light distribution for short distance flood lighting. Reflector fluted to smooth out the field of light. Designed particularly for mounting relatively close to the surface to be illuminated—approximately 10 to 20 feet therefrom, such as upon lighting standards at the curb. It may be feasible to locate at greater distance than indicated above. Whenever possible, floodlighting problems should be referred to "Pittsburgh" Engineering Department for its recommendations.

When lamp is at focal centre, maximum concentration is secured, the width of the important part of the beam being 30 degrees. With the lamp ½ inch back of focal centre, maximum spread is secured, width of beam being approximately 50 degrees.

Housing: Cast iron base, door, door frame and cowl with drum of heavy Armco iron, rust proofed by special process. Door equipped with heat-resisting clear glass, cemented in; waterproof.

Cowl: Carries socket and adjusting mechanism.

The mogul socket is carried on a focusing mechanism, making possible movement of the lamp in all directions, which permits accurate focusing.

Finish: All metal parts excepting cast iron treated to prevent rusting.

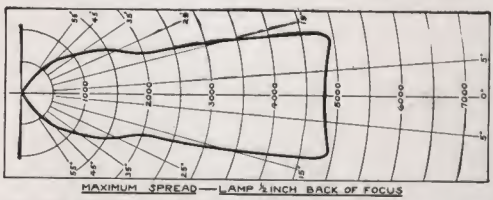
Finished in satin silver color.

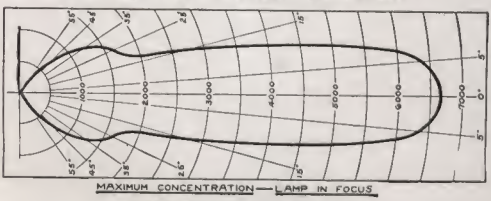
Reflector: Especially designed "Pittsburgh" reflector; finished in satin silver color.

Lamp: 300-watt Type "C". 200-watt may be used with proper socket reducer.

Dimensions:

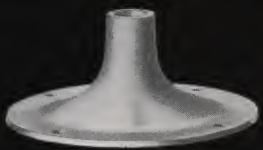
Height over all	22¼″
Width	15¾″
Front to back	10½″
Weight	58 lbs.
Diameter of Base	6″
Standard Package	1
Price, as shown	**$47.50**
Code: Fludothree.	F. O. B. Irwin, Pa.





APPARENT CANDLEPOWER
DISTRIBUTION NO. FL-300—300-WATT LAMP

Permaflectors



Low Base
for Floods

High Base for Floods

Bracket Base
for Floods

Pittsburgh

Flood-Light No. FLC-500
"The Tower Lighting Unit"

Consists of a cast-iron base, Armco sheet metal housing for lamp and reflector, galvanized inside and outside and painted aluminum, cast-iron cowl containing focusing mechanism, heat-resisting glass cover cemented in hinged cast-iron door and silver-plated glass Permaflector.

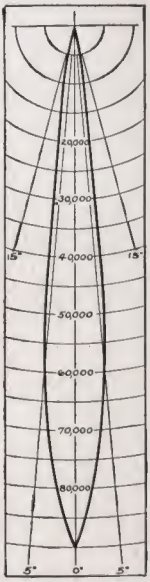
The excessive heat developed by the 500-watt lamp makes colored glass covers impracticable. Moreover when changes in color of light are desired, considerable difficulty is experienced in changing the colored glass covers, which must be installed water tight.

No. FLC-500 is designed especially to accommodate the color caps which are readily slipped over the lamp bulb. This eliminates the question of breakage of the color medium since the color caps are thoroughly protected from the weather by the outside clear heat-resisting glass cover.

This flood-light therefore provides the most practical means for securing color effects in flood-lighting of buildings, monuments, etc.

Lamps: Flood-Light No. FLC-500 is designed for use with the 300 or 500-watt Standard Mazda C Lamp.

Dimensions: Height with low base....25″
Width.....21″
Diameter of base.....8″
Standard Package..... 1
Standard Carton..... 1
Weight.....87 lbs.
Price: As shown (Code: Coloflud) **$70.00**
Price: With high base.....**$74.50**
Code: Colofluhi.
Price: With bracket base **$73.00**
Code: Colobrakba.



APPARENT CANDLEPOWER DISTRIBUTION NO. FLC-500 500-WATT LAMP

No. FLC-1000

Same as No. FLC-500, excepting different reflector and longer cowl. For 750-1000 watt lamp.

Price: With low base.....**$75.00.** *Code:* Colthousan.
Price: With high base....**$79.50.** *Code:* Thousanhi.
Price: With bracket base..**$78.00.** *Code:* Thoubrak.

Bases

Low base for No. FL-500, FL-1500, FLC-1000 and FLC-500, (see page 78), price each, **$3.00.** *Weight*, 4 lbs.

Round base for No. FL-300, illustrated on page 74, price each.....**$3.00**

Bracket base for No. FL-500, FL-1500, FLC-1000 and FLC-500 illustrated on page 78 (used either upright or horizontal), price each.....**$6.00.** *Weight*..8 lbs.

High (portable) base for No. FL-500, No. FL-1500, FLC-1000 and No. FLC-500, 36″ high, illustrated on page 78, price each.....**$7.50.** *Weight*..15 lbs.

All prices F. O. B. Irwin, Pa.

Permaflectors

Heat-Resisting Cover Glass

Consists of special heat-resisting, clear convex glass, well-annealed, so that breakage caused by rain, sleet or snow is practically eliminated.

Cover Glass No. 1 for Flood-Lights No. FL-500, FLC-500 and FLC-1000 (16¾″ dia.) price, F. O. B. Irwin, Pa. **$12.00**

Cover Glass No. 3 for No. FL-1500, (18¾″ dia.) price, F. O. B. Irwin, Pa. . . . **$14.00**

Cover Glass No. 2 for Flood-Light No. FL-300 (12″ diameter) price each F. O. B. Irwin, Pa. **$6.00**

Cover Glass No. 4 for No. FLC-250 (11¼″ dia.) price F. O. B. Irwin, Pa. **$5.00**

Stippled Cover Glass

For Flood-Lights No. FLC-250, FL-500 FL-1500, FL-300, FLC-500 and FLC-1000. Useful for smoothing out the field of light for short throws. Prices same as above.

Spread Lens

For No. FL-500, FL-1500, FL-300, FLC-500 and FLC-1000.

The "Pittsburgh" Spread Lens flattens the beam of light from the flood-light into a rectangular band of 120° width, similar in action to the automobile headlight lens. Particularly useful for lighting rectangular signs from rather close locations.

When ordering specify if beam is to be spread horizontally or vertically.

Prices same as above.

Flood-Light Reflectors

FL-500 FL-1500 FL-300 FLC-500

For FL-500, page 75, price each F.O.B. Irwin, Pa. **$16.00**
For FL-1500, page 75, price each F.O.B. Irwin, Pa. **$24.00**
For FL-300, page 77, price each F.O.B. Irwin, Pa. **$11.00**
For FLC-500, page 79, price each F.O.B. Irwin, Pa. **$15.00**
For FLC-1000, page 79, price each F.O.B. Irwin, Pa. **$16.00**
For FLC-250, page 71, price each F. O. B. Irwin, Pa. **$5.00**

(This is reflector No. C-201, page 49)

Unless otherwise specified when ordering, all Flood-Lights will be furnished with clear cover glass.

Pittsburgh

Adequate factory stocks are maintained at all the following points to assure prompt service.

Branch Offices

NEW YORK CITY: 145 W. 41st Street
Telephone: Wisconsin 7646

CHICAGO: 549 W. Washington Street
Telephone: Randolph 5290

Factory Representatives

ATLANTA, GA. .....Whitman & Kethley, Bona Allen Bldg.
BALTIMORE, MD. .....W. B. Masland Co., 105 E. Franklin St.
BOSTON, MASS. ..... Detweiler-Bell Co., 101 Milk St.
BUFFALO, N. Y. ..... H. H. Mallon, 360 Delaware Ave.
CHICAGO, ILL. ..... 549 W. Washington St.
CINCINNATI, OHIO ..... H. C. King, 622 Broadway.
CLEVELAND, OHIO, Handel-Davies Co., 202 Chester-Twelfth Bldg.
DALLAS, TEXAS..... Gottschall & Westcott, 2020 N. Lamar St.
DENVER, COLO. ..... Wesco Co., 7th and Lawrence Sts.
DETROIT, MICH. .... Morey-Hotton Co., Inc., 137 E. Elizabeth St.
INDIANAPOLIS, IND., Scott-Jaqua Co., 202 Indiana Terminal Warehouse, 31 E. Georgia St.
KANSAS CITY, MO. ..... Keystone Bldg., 1320 Main St.
LOS ANGELES, CAL., Lighting Sales Co., 201 Transportation Bldg., 7th and Los Angeles Sts.
LOUISVILLE, KY. .....Nicholson Electrical Sales, 214 Keller Bldg.
MEXICO CITY, MEXICO ..... Jose Goy, Apdo 2724, D. F.
MILWAUKEE, WIS. .....A. J. Singer, 315 National Ave.
NEW HAVEN, CONN. ..... Detweiler-Bell Co., 152 Temple St.
NEW YORK CITY .....145 West 41st St.
PHILADELPHIA, PA. .....A. Hopkin, Jr. Co., 235 S. 8th St.
SALT LAKE CITY, UTAH ....Raymond Ackerman, 318 Dooly Block.
SAN FRANCISCO, CAL. .....Lighting Sales Co., 68 Post Street
SEATTLE, WASH. .....L. D. Morgan, 240 Securities Bldg.
ST. LOUIS, MO. .. McDonnell-Wacker Co., 2741 Washington Blvd.
ST. PAUL, MINN. ..... C. O. Kindy, 1236 Lincoln Ave.

CANADA

CALGARY, Cochrane, Stephenson & Co., 813 Lancaster Bldg.
TORONTO 2, ONTARIO, Wilson Illumination Co., 186 Adelaide St., W.
VANCOUVER, B. C., Cochrane, Stephenson & Co., 707 N. West Bldg.
WINNIPEG, MAN., Cochrane, Stephenson & Co., 265 Portage Ave.

Pittsburgh Reflector Company

304 Ross Street Pittsburgh, Pennsylvania

Form 30
August, 1928

Printed in U. S. A.
By Meyer-Rotier-Tate Co., Milwaukee